SUPREME COURT OF THE UNITED STATES.

No. 70.

JOSEPH ZANE AND FRANCIS ROACH, APPELLANTS,

vs.

HENRY SOFFE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

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1 The President of the United States of America to Henry Soffe, greeting:

You are hereby commanded that you personally appear before the judges of the circuit court of the United States of America for the southern district of New York, in the second circuit court, in equity, on the first Monday of March, A. D. 1877, wherever the said court shall then be, to answer a bill of complaint exhibited against you in the said court by Joseph Zane & Francis Roach, and do further and receive what the said court shall have considered in that behalf. And this you are not to omit under the penalty on you of two hundred and fifty dollars.

Witness honorable Morrison R. Waite, Chief Justice of the Supreme Court of the United States, at the city of New York, on the 23d day of January, in the year one thousand eight hundred and seventy-seven, and of the Independence of the United States of America the hundred and first.

[L. S.] JOHN I. DAVENPORT, *Clerk.*

WM. D. BOOTH,
Compl'ts' Sol'r.

The defendant is required to enter appearance in the above cause in the clerk's office of this court on or before the first Monday of March, 1877, or the bill will be taken pro confesso against him.

J. I. D., *Clerk.*

2 (Indorsed:) I hereby certify that on the 24th day of January, 1877, at the city of New York, in my district, I personally served the within subp. in equity upon the within-named Henry Soffe by exhibiting to him the within original, and at the same time leaving with him a copy thereof.

Dated , 1876.

J. E. D.,
Dep. U. S. Marshal, S. D. of N. Y.

Filed Feb'y 17, 1877.

3 *Bill of complaint.*

Circuit court of the United States, southern district of New York. In equity.

JOSEPH ZANE ET AL.
v.
HENRY SOFFE.

To the judges of the circuit court of the United States, sitting in equity, within and for the southern district of New York:

Joseph Zane, of Boston, in the county of Suffolk and State of Massachusetts, and Francis Roach, of said city, both citizens of the State of Massachusetts, copartners under the firm of Joseph Zane & Co., doing business in Boston, in said district, bring this their bill against Henry Soffe, of the city of New York, in the State of New York, a citizen of the State of New York, and doing business in said city of New York. And thereupon your orators complain and say:

First. That heretofore, and prior to the twenty-seventh day of June, 1865, Nathaniel Jenkins, of Boston, became and was the original and first inventor of a new and useful improvement in self-closing cocks, and thereupon made due application for letters patent therefor; and after due proceedings had, letters patent were duly issued to him for his said invention, granting to him, his executors, administrators, and assigns, for the term of seventeen years from the twenty-seventh day of June, A. D. 1865, the full and exclusive right and liberty of making, using, and vending to others to be used the said invention.

Second. That thereafter said Nathaniel Jenkins, by assignment duly recorded in the United States Patent Office, conveyed to C. T. Woodman, of Boston, in said State of Massachusetts, one undivided half of said letters patent.

Third. That thereafter, by assignment duly recorded in the Patent Office, the said C. T. Woodman conveyed all his right, title, and interest in and to said letters patent, being one undivided half part of said patent, to your orators.

Fourth. That thereafter, by assignment duly recorded in the Patent Office, said Nathaniel Jenkins conveyed all his right, title, and interest in said letters patent, consisting of one undivided half, to your orators.

Fifth. That your orators, said Zane and Roach, have, ever since January 20, 1868, been exclusively possessed under the same, and entitled to all the rights and privileges thereby secured, for the nature and description whereof your orators make profert of the letters patent, assignment, and conveyances above referred to, as this honorable court may order.

Sixth. That your orators have worked said letters patent, and put the same in practice, and that they are of great value to your orators, and that your orators' rights have been respected under the same by manufacturers of cocks and faucets for about six years.

Seventh. And your orators further show that the validity thereof, and of the claim of your orators, as set forth in said letters patent, have been fully established by the judgment and decree of the circuit court of the United States for the first circuit, district of Massachusetts, at the October term of said court, 1876, to wit, on the twenty-ninth day of November, 1876, in a suit in equity founded thereon, and then duly pending before said court, wherein your orators were complainants, and Julian D'Este, J. R. McKenzie, and Wallace H. Bate were defendants, after full hearing of the parties on the pleadings and proof and arguments of their respective counsel and due consideration thereof; whereupon it was adjudged and decreed by the court that said letters patent were good and valid, and that said Nathaniel Jenkins was the first and original inventor of the improvements therein described and claimed, and that said defendants had infringed upon the same and upon the exclusive right of your orators under the same; that your orators were entitled to a perpetual injunction to restrain the defendants, and for an account as prayed for in said bill of complaint.

Eighth. And your orators further show that the exclusive right and liberty aforesaid has been and still is of great value and profit to your orators; yet the respondent, well knowing the premises, without consent and in violation of said letters patent and your orators' rights, has made, sold, and used, and still does make, sell, and use, in said district, said pat-

ented improvement, but how many your orators cannot state, but pray that the respondent may discover and set forth; and thereby the respondent has infringed and still does infringe upon the exclusive rights and privileges so intended to be secured to your orators by the letters patent aforesaid.

Ninth. And your orators have requested the said respondent to desist from making, using, or selling said improvements, and to account with and pay over to your orators the profits made by said respondent by reason of such unlawful making, using, and selling the same.

Tenth. But now, may it please your honors, the said respondent refuses so to do, contrary to equity and good conscience, and to the manifest wrong of your orators in the premises.

Wherefore—

1st. That the respondent may answer under oath the premises, and may be enjoined, during the pendency of this action, from such infringement;

2d. That he may be perpetually enjoined from such infringement;

3d. That he may account to the complainants for the self-closing cocks so made by him in violation of their said exclusive rights, and for all moneys received from the sale thereof, and may be decreed to pay over to the complainants any and all profits made or derived from said sale in violation of complainants' said rights;

4th. And that damages to the amount of twenty thousand dollars may be adjudged to the complainants against the respondent for such violation of their exclusive rights, and for respondent's infringement; and for other and further relief:

May it please your honors to grant to the complainants—

6 1st. A writ of subpœna, in due and usual form and under usual penalties;

2d. A writ of injunction, restraining from such infringement, during the pendency of this suit, the respondent;

3d. A writ of injunction, restraining from such infringement, perpetually, the said respondent:

All duly sealed and tested in due and usual form and under usual penalties, and all directed to the said respondent, Henry Soffe.

JOSEPH ZANE.
FRANCIS ROACH.

THOS. WM. CLARKE, *of counsel*,
29 *Pemberton Sq., Boston, Mass.*

UNITED STATES OF AMERICA,
Massachusetts, County of Suffolk, City of Boston:

JAN'Y 22, 1877.

Personally appeared Joseph Zane and Francis Roach, who, being duly sworn, severally made oath that the matters in the foregoing bill by them subscribed, except those stated on information, are, and the rest they believe to be, true; and that they and each of them believe that said Jenkins was and is the original and first inventor of the invention above referred to as patented.

Before me.

C. W. TUTTLE,
U. S. Commissioner.

(Endorsed :) U. S. C. C., S. D. N. Y. Joseph Zane & al. vs. Henry Soffe. Bill of complaint. W. D. Booth, No. 60 Wall st., N. Y., sol'r & of counsel. Thos. Wm. Clarke, 29 Pemberton Square, Boston, of counsel. Filed Jan'y 23d, 1877.

7 Circuit court of the United States for the southern district of New York.

JOSEPH ZANE ET AL.
vs.
HENRY SOFFE. } In equity.

SIR: Please enter our appearance as the attorneys for the defendant in the above-entitled action.

DUELL, WELLS & DUELL,
Atty's & Sol'rs for Def't, 229 B'way, N. Y. City.

To JOHN I. DAVENPORT, Esq.,
Clerk of U. S. Circuit Court, Southern District of New York.

(Endorsed :) U. S. circuit court, S. D. of New York. Joseph Zane et al. vs. Henry Soffe. Notice of appearance. Duell, Wells & Duell, att'ys for def't, 229 B'way. Filed Feb'y 16, 1877.

8 Circuit court of the United States for the southern district of New York.

HENRY ZANE ET AL.
ag'st
HENRY SOFFE. } In equity.

The answer of Henry Soffe, defendant, to the bill of complaint of Joseph Zane and Francis Roach.

This defendant now and at all times hereafter, reserving and saving unto himself all benefit and advantage of exceptions which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainants' bill of complaint contained, for answer thereto, or unto so much and such parts thereof as this defendant is advised is or are material for him to make answer unto, this defendant, answering, says:

1. He admits that letters patent of the United States were granted to Nathaniel Jenkins on the 22d day of June, 1865; but he denies that the said Nathaniel Jenkins was the first and original inventor of a new and useful improvement in self-closing cocks, as alleged in complainants' bill of complaint herein; and he denies having any knowledge sufficient to form a belief whether said letters patent were duly assigned to said complainants as alleged.

2. He denies that the rights or alleged rights of complainants have been respected under the letters patent set forth in complainants' bill, by the manufactures of cocks and faucets for about six years, or for any other period; and defendant alleges that the said rights or alleged rights have been denied, controverted, and ignored by manufacturers of faucets and cocks throughout the United States, and that complainants have not made

until recently any attempts to sustain their alleged rights, well knowing that in view of the state of the art at the time of the granting of said letters patent they had no rights under said letters patent of any value.

3. And this defendant, further answering, denies that the patent granted said Nathaniel Jenkins is valid; and alleges that prior to the invention described in said patent, a screw and spring, worked in opposition to each other, had been used to open and close faucets and hydrants, in which faucets and hydrants the screw did all the work of opening the faucets and hydrants, and the spring did all or most of the work of closing the
9 valve of the faucets and hydrants. That faucets and hydrants operated in the above manner had been in public and general use and for sale in the cities of New York and Brooklyn and in various other places long prior to, and at least fifteen years before, the date of the alleged invention of Nathaniel Jenkins; and defendant is advised and believes that, by reason of said prior public use and sale, the patent granted to said Jenkins is invalid.

4. And this defendant, further answering, alleges that on the 12th day of August, 1846, letters patent of the United States were granted to Frederick H. Bartholomew for a hydrant and stop-cock, in which all the essential elements of the faucet patented by said Jenkins are described and exhibited; and defendant is advised and believes, that by reason of said prior invention the patent granted to said Jenkins is invalid.

5. And this defendant, further answering, alleges that if said letters patent of said Jenkins have been sustained and adjudged to be valid, as alleged in complainants' bill of complaint, such adjudication was obtained either by a waiver of the rights of the defendants appearing in such proceeding, and under a misapprehension as to the state of the art at the date of said alleged invention; that defendant had no knowledge of or interest in said action, by reason of which facts defendant is advised and believes that he is in no way bound.

6. And this defendant, further answering, denies that he has infringed upon the rights of said complainants by reason of the patent alleged to belong to them, as set forth in their said bill of complaint; and he denies that he has made, or caused to be made, any faucet containing the inventions described in the specification of said patent, and claimed by said Jenkins.

7. And this defendant further, answering, says that on the 10th day of March, 1874, this defendant, being the original and first inventor of an improvement in faucets, duly obtained letters patent of the United States therefor; that the only self-closing faucets manufactured and sold by this defendant are manufactured according to the specifications contained in the said last-mentioned letters patent, for the nature and description whereof this defendant makes profert of said letters patent as this honora-
10 ble court may order; and he denies that the invention therein described and contained is similar to or a copy of the alleged invention as patented by said Jenkins, as alleged in complainants' said bill.

8. And this defendant, further answering, denies each and every allegation of infringing the rights of said complainants, as alleged in said complainants' bill; and he denies that the faucets made by him resemble, simulate, and counterfeit those described and claimed in the alleged invention of said Jenkins, as alleged by said complainants in their bill of complaint;

and this defendant denies each and every other allegation, item, and particular in said bill set forth, which has not been hereinbefore either specifically admitted, denied, or controverted, and this upon the best of his knowledge.

All which matters and things this defendant is willing and ready to aver, maintain, and prove, as this honorable court shall direct; and humbly prays to be hence dismissed with his reasonable costs and charges in this behalf most wrongfully sustained.

HENRY SOFFE.

SOUTHERN DISTRICT OF NEW YORK,
City and County of New York, ss:

On this 28th day of February, 1877, personally appeared the above-named Henry Soffe, and made oath that the foregoing statements were true, so far as made upon his own knowledge, and so far as made upon information and belief, that he has been informed and believes it to be true.

[SEAL.] MAX MOSES,
Notary Public, N. Y. Co.

(Endorsed:) U. S. circuit court, S. D. of New York. Joseph Zane et al. ag'st Henry Soffe. Answer. Duell, Wells & Duell. Filed March 1st, 1877.

U. S. circuit court, southern district of New York.

JOSEPH ZANE & AL.
vs.
HENRY SOFFE.

Replication.—Filed March 3, 1877.

These repliants say that they will aver, maintain, and prove their bill to be true, certain, and sufficient, and that the answer is uncertain, untrue, and insufficient, and are ready so to do, as this honorable court shall direct, and humbly pray as in and by their bill they have already prayed.

By their solicitor and counsel.

THOS. WM. CLARKE.

(Endorsed:) U. S. C. C., S. D. N. Y. Joseph Zane & al. vs. Henry Soffe. General replication. Filed M'ch 3d, 1877.

11 EVIDENCE FOR COMPLAINANTS.

Taken pursuant to the 67th rule of the Supreme Court of the United States, in equity, as amended, before me.

JOHN A. SHIELDS, *Examiner.*

Present, Thos. Wm. Clarke, esq., counsel for the complainants, and C. H. Duell, esq., counsel for the defendant.

THURSDAY, *March* 8, 1877.

Complainants' counsel offers in evidence certified copy of letters patent

granted to Nathaniel Jenkins, June 27, 1865, 48407, for improvement in self-closing cocks; also certified copy from the records of the Patent Office of the following assignments under one certificate: Jenkins to C. J. Woodman, October 13, 1865, recorded October 16, 1865, Book T^7, page 324; Woodman to Zane & Roach, dated March 8, 1867, recorded January 16, 1868, Book A^{10}, page 436; Jenkins to Zane & Roach, January 17, 1868, recorded January 20, 1868, Book X^9, page 321.

Deposition of James Hause.

Direct examination by THOS. WM. CLARKE, Esq., of counsel for complainants:

JAMES HAUSE, called and sworn as a witness on the part of the complainants, deposes and says as follows:

Int. 1. State your name, age, residence, and occupation.

Ans. James Hause; twenty two; 39 Chambers street; clerk.

Int. 2. Do you remember some time in the last part of December, 1876, visiting the shop of Mr. Henry Soffe? And, if so, state whether you made any purchase there, and, if so, what it was; and if you have any bill of the purchase, please produce it and the article you purchased.

Ans. I did visit there in the latter part of December; I bought there a half-inch self-closing plain Bib cock, and took a bill of the same, both of which I here produce.

(The cock produced by the witness is marked "Soffe Faucet, J. A. S., U. S. Com.;" and the bill is marked "James Hause, J. A. S., U. S. Com'r.")

Int. 3. Whether or not you know what Mr. Soffe's business is, and what amount, if any, of faucets similar to the one you purchased you saw in his establishment?

Ans. I think he is a brass-cock manufacturer. I saw him go to the bundle of papers and take that out of it.

Int. 4. How large a bundle of papers was this, and where was it situated in the shop?

Ans. In the rear part of the store; about a half dozen of them, I think.

Cross-examination by C. H. DUELL, Esq., counsel for defendant:

Cross-int. 5. In whose employ were you in December, 1876?

Ans. Mr. Fred. Adee.

Cross-int. 6. How did you come to purchase that faucet?

Ans. Mr. Adee sent me.

Cross-int. 7. In what part of the city is the shop where you purchased this faucet?

Ans. In Greene street.

Cross-int. 8. Who did you see in that shop in Greene street?

Ans. I saw three men there. One was, I think, Mr. Soffe. The one I refer to was ordering the men around, and when I described him to Mr. Adee he said that was Mr. Soffe's description.

Cross-int. 9. What conversation, if any, took place between you and the man from whom you purchased the faucet?

Ans. No conversation took place.

Cross-int. 10. What occurred at the time you purchased the faucet?

Ans. I handed him the order; he gave me the cock and a bill,
13 and I gave him the money. The man with whom this occurred was not the man I took for Mr. Soffe.

Cross-int. 11. By whom was the order spoken of signed?

Ans. By John H. Butcher.

Cross-int. 12. Who is he?

Ans. A plumber.

Cross-int. 13. Did Mr. Butcher give you the order?

Ans. No, sir; Mr. Adee.

Cross-int. 14. Do you know who signed this order?

Ans. I think Mr. Butcher signed it.

Cross-int. 15. How do you know that there were any other faucets in the store similar to the one you purchased and which you have identified?

Ans. I don't know that there were any more like this, except that he went to the bundle and took this out. I did not see any others that were in this bundle.

JAS. HAUSE.

Sworn to before me this eighth day of March, A. D. 1877.

JOHN A. SHIELDS, *Examiner, &c.*

14 *Bill marked "Jas. Hause, J. A. S., U. S. Com'r," and referred to in int. 2.*

NEW YORK *Dec 29th* 1876

Mr *John H. Butcher*

BASINS, BATHS, BOILERS
WATER CLOSETS, PUMPS
AND OTHER
PLUMBING MATERIALS

BOUGHT OF HENRY SOFFE

BRASS FAUCET MANUFACTURER,

41 & 43 Greene street,

1	*Fig. 1. 1-2 in S. C. Bibb* $	1.50
	Recd Paymt	

H Soffe

pr. J. R. S

NOTE.—The parts printed in script are written in the original.

15 DISTRICT OF MASSACHUSETTS,
Boston, March 16, 1877.

Present, Thos. Wm. Clarke, esq., for complainants; Henry P. Wells, esq., for defendants.

Deposition of William Edson, a witness for the complainants, taken before Charles W. Tuttle, a commissioner of the circuit court of the United States within and for the district of Massachussetts.

Direct examination by THOS. WM. CLARKE, Esq., of counsel for complainants:

Int. 1. Please state your name, age, residence, and occupation, and what has been your experience in regard to the examination and consideration of mechanical contrivances, and their comparison with each other, for the purpose of comparing their resemblances and differences.

Ans. My name is William Edson; age, forty-five years; reside in Boston, Massachusetts. I am a solicitor of patents, and expert in patent causes; I have been engaged the last twenty-five years in the study of scientific and mechanical matters, designing machinery, experimenting on the same, preparing specifications descriptive of machinery, and acting as expert in patent causes.

Int. 2. Are you familiar with letters patent granted to Nathaniel Jenkins, dated June 27, 1865, No. 48407, for improvement in self-closing cocks, and do you understand the construction and operation of the mechanism therein shown and described?

Ans. I have examined the letters patent, and do understand them.

Int. 3. Please to look at the exhibit now shown you, marked in this case "Soffe Faucet," and compare the mechanism and mechanical construction thereof with the mechanism shown and described in said Jenkins' patent, and referred to in the claims thereof, stating their resemblances and differences, and whether the said Soffe faucet is or is not substantially
16 like the contrivance described in said Jenkins' patent, and referred to in the claims thereof, giving your reasons.

Ans. The Jenkins patent shows and describes a self-closing faucet whose principle of action consists in a valve which is closed by a spring, said valve being opened by tortional action applied to a stem and handle, said stem being provided with a spiral incline which causes it to move longitudinally when turned. In turning it in one direction it opens the valve against the action of a spring. The incline on said stem is so arranged and proportioned that the pressure of the spring which closes the valve is sufficient to drive the stem back, causing it to turn, and thus allowing the valve to close by the action of the spring alone, whenever the said stem is released from the force that has been applied to the handle for the purpose of opening it. There is no stop or check in connection with the said stem, or any other part of the device, which hold the valve open; that is, the valve will always close by the action of the spring when freed from the force which has opened it. This stem is also so arranged in connection with the valve and screw that in no case can the user force the valve against the seat by turning the handle of the stem.

The mechanical parts consist of a water tube separated by a diaphragm from the discharge tube, this diaphragm having a hole, and a valve-seat in

connection with said hole; secondly, is a valve, which is forced against the said opening by means of a spring, which will keep the said valve closed, unless forced back by the action of the third part, which is a screw stem, which, when turned, moves longitudinally with said valve to open it.

I find in the Soffe faucet exhibit, marked "James Hause Affidavit," the same elements; namely, the tube having a diaphragm to separate it from the discharge pipe, said diaphragm having a hole and valve-seat; secondly, the valve acted upon by a spring to keep it closed; and, thirdly, the valve-stem and handle upon which I find screw inclines, which serve to act against the spring and to cause the valve to open whenever longitudinal motion is imparted to the stem by revolving it. These screw inclines are so arranged and proportioned, in relation to the spring, that the spring will always cause the stem to revolve in that direction, which will
17 close the valve whenever the said stem is not held by the user; in fact, I find the same elements combined in substantially the same manner, acting together to produce the same results in both cases.

Int. 4. Please explain how the "stem is arranged in connection with the valve and screw" in the Jenkins faucet, "that in no case can the user force the valve against the seat by turning the handle of the stem," as you have said, and whether an arrangement with this result exists in the Soffe faucet produced, and by what mechanical contrivance, and compare the contrivance for that purpose in the Jenkins patent with the contrivance, if any, for that purpose, in the Soffe faucet, stating the resemblances and differences, and whether they are substantially 'like or different, giving your reasons therefor.

Ans. I find in the Jenkins device for preventing the user from forcing the valve onto the seat, the following device: The stem which acts upon the valve to open it, when turned in a proper direction, is moved both up and down positively by turning; but to prevent said stem from forcing the valve hard onto the seat by turning it in a wrong direction, the said stem only connects with the valve by contact; that is, touches it, but is not fastened to it; so that while tortional action is applied in one direction it forces the valve open, but if applied in the other direction it simply leaves the valve free to be acted upon by the spring, the screw of the stem having no power to draw or force the valve towards or onto the seat.

In the Soffe faucet I find the screw incline on the stem of the valve is so arranged that it can give the said stem a longitudinal motion when the stem is turned in one direction only. The thread or incline being omitted in part, that is, the part which, as a complement to the incline already in the Soffe faucet, which causes it to move in one direction, is omitted, so that the screw or incline acts to force the stem in one direction only, leaving the stem and valve unacted upon when the stem is turned in the opposite direction.

Thus in the Jenkins patent the action of the incline is separated from the valve by a loose or open joint between the said stem and valve, while in the Soffe faucet the effect is produced by having a loose or open joint between the inclines attached to the faucet and the inclines attached
18 . to the stem, so that in neither case can the forward action of the stem, that is, the valve-closing action, act positively in closing the valve.

In other words, the connection between the screw device and the valve in both cases is such a connection that the screw or incline can act positively

in one direction only; that is, in the direction which causes the valve to open, while in the other direction the screw has no power to act; that is, it cannot act in either case as a force or leverage to press the valve on its seat; and although as pieces of mechanism they are different in construction to some extent, they both perform the same function in substantially the same manner.

Int. 5. Please state whether or not you were a witness in the case of Zane v. D'Este, Bate, and McKenzie, in the first circuit, and whether you can produce a faucet showing the construction of the faucet proceeded against in that case, so far as the means of operating the valve is concerned.

(Objected to by counsel for the defendant, on the ground that the question is inadmissible and incompetent, the defendant not being a party to said action nor cognizant thereof, and the issues therein also being different.)

Ans. I was a witness in that case. I can and do produce such a faucet.

(The faucet produced is marked for identification, "Bate Faucet, C. W. T., U. S. Com'r."

Complainants' counsel offers in evidence a certified copy of the bill, answer, replication, and decree in the case of Zane et al., complainants, against D'Este et als., defendants, originating in the circuit court in the district of Massachusetts, January 24, 1874, argued at the May term, 1875, and continued for judgment until the October term, to wit, November 29, 1876, and then determined.

Counsel for defendant objects to the admission of the papers offered, on the ground stated in his former objection.)

Cross-examination by HENRY P. WELLS, Esq., of counsel for defendant:

Cross-int. 6. Mr. Edson, is a screw and an incline always identical?

19 Ans. Not necessarily identical.

Cross-int. 7. Examine the Jenkins patent; is anything said therein about an incline?

Ans. There is.

Cross-int. 8. What?

Ans. In the nature of the invention I find the following sentences: "whose threads are so inclined that the pressure;" also, "while at the same time by means of said inclined screw." I consider those as descriptions of inclines.

Cross-int. 9. Does not the drawing of said patent exhibit simply a screw, in the ordinary sense of the word, on the screw-follower H?

Ans. It does not; it indicates simply an incline slot, and a start which enters it.

Cross-int. 10. Taking the drawing of said patent and the description of the screw-follower H, in the specifications contained, do not the two taken together show the device therein set forth to be simply a screw in the ordinary sense of the word?

(Counsel for the defendant calls for an answer, yes or no.

Counsel for complainants suggests that it is a little irregular for the gentleman to figure both as cross-examining counsel and witness, particularly when the inquiry is as to a result of a written document.)

Ans. I no not think it does.

Cross-int. 11. Examine the faucet which I now hand you, marked "Zane et al. v. D'Este et als., Jenkins' Cock Exhibit 3, J. G. S., exami-

ner," and state whether said cock is not made in accordance with said Jenkins' patent as to the screw-follower H.

Ans. It is substantially the same.

Cross-int. 12. Is it not exactly in accordance with that portion of the specification of said Jenkins' patent wherein the screw-follower H is described?

Ans. It is not.

Cross-int. 13. Wherein does it differ?

Ans. The specification describes the follower as having one or more coarse screw-threads referred to as J in the drawing, which shows simple inclined slot made in the surface of the cylinder.

20 Cross-int. 14. Do not all screws show simple inclined slots made in the surface of a cylinder?

Ans. They do.

Cross-int. 15. How long have you been in the employ of the plaintiffs as an expert?

Ans. I was employed in the D'Este case before this by them.

Cross-int. 16. Had you testified as an expert, or been employed as an expert, before that time in cases involving self-closing cocks?

Ans. I think not.

Cross-int. 17. Was not your attention first directed to this subject by that action?

Ans. No, sir.

Cross-int. 18. Does not the screw-follower H in the faucet shown to you, and forming the subject of int. 11, consist of a simple cylinder with a screw or triple screw, or a quadruple screw, in the ordinary sense of the word, cut upon it?

Ans. It does.

Direct examination resumed:

Int. 19. In case a screw and nut are used in opposition to a spring, to produce longitudinal movement of a reciprocating character in which the threads of the screw engaging with those of the nut, and climbing them, produce all the motion in one direction, and the action of the spring produces all the motion in the other direction, what difference would it make in the action of such an instrument if the thread of the nut on the side upon which the spring did not press the thread of the screw were cut away altogether?

Ans. It would make no difference.

WILLIAM EDSON.

[SEAL.] Attest: CHARLES W. TUTTLE;
Commissioner U. S. Circuit Court, District of Massachusetts.

21 Letters patent of the United States, No. 48407. Granted Nathaniel Jenkins, June 27, 1865. Improvement in self-closing cocks.

The schedule referred to in these letters patent, and making part of the same.

To all whom it may concern:

Be it known that I, Nathaniel Jenkins, of Boston, in the county of Suf-

folk and State of Massachusetts, have invented a new and useful improvement in self-closing faucets; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings forming a part of this specification, in which—

Fig. 1 is a longitudinal, central, vertical section through the entire faucet, and

Fig. 2 is a similar section, through the swivel P and diaphragm, showing another method of confining the two.

Like parts are indicated by the same letters in both figures.

The nature of my invention consists in opening a self-closing faucet by means of a screw-follower, H, whose threads are so inclined that the pressure of the water and the spring O under the valve K will be sufficient to rotate said follower, and thereby close the faucet, while at the same time, by means of said inclined screw, it will be easy to open the valve and hold the same open so long as it may be required to let the water run.

My invention further consists in combining with said self-closing valve and screw-follower a swivel, P, to prevent the twisting and friction of the valve which would otherwise occur.

To enable others skilled in the art to make and use my improvement, I will now proceed to describe the construction and operation of the same.

22 Fig. 1 represents a longitudinal, central, vertical section of the faucet, in which A is the inlet, B the outlet, and C the valve-chamber confined to the center of the faucet by means of the screw *e*.

d is the valve-seat and K is the valve of rubber or other suitable material, the bottom of which has a projecting ring or flange, *n*, which enters a corresponding groove in the top of the metallic base I, whereby the two are confined together.

Q is a round shank extending downward from the centre of the base L, around which is placed the spiral spring O, the design of said spring being to force the valve K upwards to its seat, *d*, where it will be held by the pressure of the water.

H is the follower passing through the cap F of the chamber Y down to the diaphra'm G, which is confined between the bottom of the cap F and the top of the chamber Y by means of the screw *i*, said diaphragm answering also as a packing for the cap. This follower H is provided with a coarse screw-thread or threads, *j*, the inclination of which is such that a partial rotation of the same will entirely open the valve, while the upward pressure of the spring O and the water under the valve is sufficient to overcome the friction of said screw-follower, and throw it up, thus making a self-closing faucet. The inclination of the screw-thread *j* should be proportioned to the head of water under which the faucet is to be used; the less the head of water the greater the inclination of the thread should be, and vice versa.

P is the cylindrical swivel, the upper end of which is turned smaller and provided with a screw, *f*, which enters the cylinder X, between which the diaphragm G is confined, as clearly shown in Fig. 1. Or, the diaphragm being elastic, may be confined to the swivel P, by stretching it over the same and allowing it to snap or contract into the slot *x* as represented in Fig. 2.

This latter cylinder X turns freely in its bearing in the lower end of the

follower, being kept from dropping out by means of the pin *a*, the inner end of which enters an annular slot in the same, or it may be supported entirely by the diaphragm, as in Fig. 2.

The bottom of the swivel P is enlarged and concave so as to con-
23 form to the shape of the top of the valve K, on which it rests; as represented in the drawing.

What I claim as new, and desire to secure by letters patent, is—

1st. The screw-follower H in combination with the valve of a self-closing faucet, substantially as set forth, and for the purpose described.

2d. The combination of the swivel P, screw-follower H, valve K and spring O, substantially as and for the purpose described.

NATHANIEL JENKINS.

Witnesses:

N. AMES.

GEO. R. CLARKE.

(Here follows diagram, marked "Page 23.")

24 The United States Patent Office to all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the records of this office.

In testimony whereof I, J. M. Thacher, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this thirty-first day of January, in the year of our Lord one thousand eight hundred and seventy-four, and of the Independence of the United States the ninety-eighth.

[SEAL.] J. M. THACHER,
Acting Commissioner.

Assignments.

Whereas I, Nathaniel Jenkins, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented four new and useful inventions in faucets and stop-cocks, for which I have obtained letters patents of the United States of America, viz, a patent on an improvement in cocks (being a reissue from April 18, 1865), which bears date April 18, A. D. 1865, and is numbered 1979, to which reference is made (a more full and particular description is annexed to the said letters patent); also a patent on a self-closing cock, which letters patent bears date June 27, A. D. 1865, and is numbered 48407, to which reference is made (a more full and particular description is annexed to the said letters patent); also a patent on an improvement in valve cocks, which letters patent bears date August 1, A. D. 1865, and is numbered 49116, to which reference is made (a more full and particular description is annexed to the said letters patent); also a patent on an improvement in faucets, which letters patent bears date August 22, A. D. 1865, and is numbered
25 49527, to which reference is made (a more full and particular description is annexed to the said letters patent in the schedules); by which said letters patent were granted the full and exclusive rights and liberty of making, constructing, using, and vending to others to be used, the said improvements, were granted to the said Nathaniel Jenkins, his

heirs, administrators, and assigns, for the term of seventeen years from the said days and dates thereof of the several letters patents;

And whereas C. T. Woodman, of Boston, county of Suffolk and Commonwealth of Massachusetts, and Nathaniel Jenkins aforesaid, have agreed to purchase from me all the rights, titles, and interests which I have or may have in and to the said improved inventions, in consequence of the granting of letters patents thereof, and have paid to me, the said Jenkins, the sum of one dollar, the receipt of which is hereby acknowledged:

Now, this indenture witnesseth that, for and in consideration of the said sum to me paid, I have assigned and transferred, and do hereby assign and transfer, to the said C. T. Woodman and Nathaniel Jenkins, the full and exclusive rights to all the improvements made by me, as fully set forth and described in letters patents which have been granted me by the United States of America, and designated, numbered, and dated as aforesaid. And I do hereby authorize and request the Commissioner of Patents to record this assignment to the said Nathaniel Jenkins and C. T. Woodman, as the assignees of my whole rights and titles thereof to the above improvements, for the sole use and behoof of the said Jenkins and Woodman, and their legal representatives.

In testimony whereof I have hereunto set my hand and affixed my seal, this thirteenth day of October, A. D. 1865.

NATHANIEL JENKINS. [SEAL.]

Sealed and delivered in presence of—
R. CURTIS.

Received and recorded October 16, 1865.

[5-ct. U. S. rev. stamp, cancelled.]

26 Whereas, by assignment recorded October 16, 1865, Y, page 324, Nathaniel Jenkins, of Boston, assigned to me, C. T. Woodman, of Boston, Suffolk County, Massachusetts, and to himself, certain letters patent, one of which, numbered 48407, bears date June 27, 1865, and I now own one-half of said patent No. 48407; and whereas Joseph Zane and Francis Roach, of said city (copartners), are desirous of purchasing all of my interest in said patent No. 48407:

Now, for the sum of one dollar to me paid, and for other valuable considerations by me received from said Zane and Roach, I do hereby grant, sell, and convey to said Joseph Zane and Francis Roach all of my right, title, and interest in and to said letters patent No. 48407, being one undivided half part of said patent. To be held and enjoyed by said Joseph Zane and Francis Roach, and (copartners) their successors and assigns, as fully and entirely as the same would be held and enjoyed by me had this assignment and sale not been made.

In testimony whereof I have hereunto set my hand and affixed my seal, this eighth day of March, in the year of our Lord eighteen hundred and sixty-seven.

C. T. WOODMAN. [SEAL.]

Witness:
E. W. FOGG.

Recorded January 16, 1868.—Ex'r, J. A. W.

[5-ct. U. S. rev. stamp, cancelled.]

Whereas I, Nathaniel Jenkins, of Boston, in the State of Massachusetts, have invented a certain new and useful self-closing cock or faucet, for which letters patent of the United States of America (numbered 48407, and bearing date the twenty-seventh day of June, in the year eighteen hundred and sixty-five) have been granted to me the exclusive right of making, using, and vending the said invention throughout the said United States:

27 And whereas Joseph Zane and Francis Roach, of Boston, in the State of Massachusetts, have agreed to purchase from me all the right, title, and interest which I have in and to the said invention for and in the United States of America, such being one undivided half part of the entire patent as secured by the said letters patent, and have paid to me the sum of five hundred dollars, the receipt whereof is hereby acknowledged:

Now, therefore, this indenture witnesseth that for and in consideration of the said sum to me paid, I have assigned, sold, and set over, and do hereby assign, sell, and set over, unto the said Joseph Zane and Francis Roach all the right, title, and interest which I have in the said invention and letters patent for and in the United States of America.

The same to be held and enjoyed by the said Joseph Zane and Francis Roach, for the use and behoof of them and their legal representatives, to the full end of the term for which the said letters patent are granted, as fully and effectively as the same would have been held and enjoyed by me had this assignment never been made.

In testimony whereof I have hereunto set my signature and affixed my seal, this seventeenth day of January, in the year eighteen hundred and sixty-eight.

NATHANIEL JENKINS. [SEAL.]

Witness:
E. W. FOGG.

Recorded January 20, 1868.

[5-ct. U. S. rev. stamp, cancelled.]

28 Circuit court of the United States, district of Massachusetts. In equity.

JOSEPH ZANE ET AL.
v.
JULIAN D'ESTE ET AL.

Bill of complaint.—Filed January 27, 1874.

To the judges of the circuit court of the United States, sitting in equity within and for the district of Massachusetts:

Joseph Zane, of Boston, in the county of Suffolk and State of Massachusetts, and Francis Roach, of said city, both citizens of the State of Massachusetts, copartners under the firm of Joseph Zane & Co., doing business in Boston, in said district, bring this their bill against Julian D'Este, of Medford, in the State of Massachusetts, and J. R. McKenzie, of Boston, in the State of Massachusetts, citizens of the State of Massachusetts, copartners under the firm of D'Este & Co., doing business in said Boston; and Wallace H. Bate, of Charlestown, in the State of Massachusetts, and a citizen of said State. And thereupon your orators complain and say:

1. That heretofore, and prior to the twenty-seventh day of June, 1865, Nathaniel Jenkins, of Boston, became and was the original and first inventor of a new and useful improvement in self-closing cocks, and thereupon made due application for letters patent therefor; and after due proceedings had, letters patent were duly issued to him for his said invention, granting to him, his executors, administrators, and assigns, for the term of seventeen years from the twenty-seventh day of June, A. D. 1865, the full and exclusive right and liberty of making, using, and vending to others to be used, the said invention.

29 2. That thereafter said Nathaniel Jenkins, by assignment duly recorded in the United States Patent Office, conveyed to C. T. Woodman, of Boston, in said State of Massachusetts, one undivided half of said letters patent.

3. That thereafter, by assignment duly recorded in the Patent Office, the said C. T. Woodman conveyed all his right, title, and interest in and to said letters patent, being one undivided half part of said patent, to your orators.

4. That thereafter, by assignment duly recorded in the Patent Office, said Nathaniel Jenkins conveyed all his right, title, and interest in said letters patent, consisting of one undivided half, to your orators.

5. That your orators, said Zane and Roach, have, ever since January 20, 1868, been exclusively possessed under the same, and entitled to all the rights and privileges thereby secured, for the nature and description whereof your orators make profert of the letters patent, assignments, and conveyances above referred to, as this honorable court may order.

6. That heretofore, and prior to the eighth day of September, 1868, your orator, said Roach, became the inventor of an improvement in faucets, and thereafter, and after due proceedings had, letters patent were issued to your orators on said eighth day of September, 1868, for said invention.

7. And that your orators have, ever since the grant of said last-named letters patent, been exclusively possessed under the same, and entitled to all the rights and privileges thereby secured, for the nature and description whereof your orators make profert of said letters patent, as this honorable court may order.

8. That orators have worked said letters patent, and put the same in practice, and that they are of great value to your orators, and that your orators' rights have been respected under the same by manufacturers of cocks and faucets for about six years.

9. But that shortly before the bringing of this bill, said Wallace H. Bate, being an inventor of a certain form of self-closing faucet, involving the patented features of your orators' said patents, associating with

30 himself said Julian D'Este and J. R. McKenzie, in disregard and infringement of your orators' rights, have manufactured, used, and sold a great number of self-closing faucets, like, simulating, resembling, and counterfeiting those so patented to said Jenkins and your orators, and threaten and intend to continue so to do, and pretend that they have a right and authority so to do, and a patent therefor, to the great injury of your orators and their rights.

Wherefore—

1st. That the respondents may answer under oath the premises, and

may be enjoined, during the pendency of this action, from such infringement.

2d. That they may be perpetually enjoined from such infringement.

3d. That they may account to the complainants for the self-closing cocks so made by them in violation of their said exclusive rights, and for all moneys received from the sale thereof, and may be decreed to pay over to the complainants any and all profits made or derived from said sales in violation of the complainants' said rights.

4th. And that damages to the amount of twenty thousand dollars may be adjudged to the complainants against the respondents for such violation of their exclusive rights, and for defendants' infringement; and for other and further relief: may it please your honor to grant to the complainants—

1st. A writ of subpœna, in due and usual form, and under the usual penalties.

2d. A writ of injunction, restraining from such infringement, during the pendency of this suit, the respondents.

3d. A writ of injunction, restraining from such infringement, perpetually, the said respondents:

All duly sealed and tested in due and usual form and under usual penalties, and all directed to the said respondents, Julian D'Este, J. R. McKenzie, and Wallace H. Bate.

JOSEPH ZANE.
FRANCIS ROACH.

THOS. WM. CLARKE, *of Counsel*,
29 *Pemberton square, Boston.*

31 UNITED STATES OF AMERICA.
Massachusetts, County of Suffolk,
City of Boston.

JANUARY 24, 1874.

Personally appeared Joseph Zane and Francis Roach, who, being duly sworn, severally made oath that the matters in the foregoing bill by them subscribed, except those stated on information, are, and the rest they believe to be, true; and that they and each of them believe that said Jenkins and said Roach were and are the original and first inventors, respectively, of the invention above referred to as patented to them respectively. Before me,

JEREMIAH L. NEWTON,
Notary Public.

Answer.—Filed April 6, 1874.

The joint and several answer of Julian D'Este, Wallace H. Bate, and J. R. McKenzie, to the bill of complaint of Joseph Zane and Francis Roach.

These defendants, now and at all times hereafter reserving to themselves all benefit and advantage of exceptions which can or may be taken to the many errors, uncertainties, and other imperfections of said complainants' bill of complaint, for answer thereunto, or unto so much and such parts thereof as these defendants are advised are material for them to answer, answering, say:

They admit that letters patent of the United States were granted to Nathaniel Jenkins on the twenty-second day of June, 1865; but they deny that said Jenkins was the original and first inventor of a new and useful improvement in self-closing cocks, as alleged in said bill of complaint; and they deny having any knowledge whether said letters patent were duly assigned to said complainants as alleged.

These defendants, further answering, say they admit that on the eighth day of September, A. D. 1868, letters patent of the United
32 States were duly issued to the complainants as alleged in said bill, but they deny that said Roach was the inventor of an improvement in faucets as therein alleged; but these defendants deny having any knowledge whether said letters patent are held by said complainants.

These defendants, further answering, say they deny that the several patents granted said Jenkins and said Zane and Roach are valid; and they say that prior to the invention described in said patents, the valves of faucets when opened by a downward pressure of the valve-stem, had been closed automatically when relieved of said pressure by a spring attached to the valves, and that such self-closing faucets are described in letters patent of the United States granted to D. N. B. Coffin, January 9, 1855, and numbered 12195, and were in use long before the alleged inventions of said Jenkins and said Roach.

These defendants, further answering, say that on the sixteenth day of June, 1857, letters patent of the United States were granted to D. N. B. Coffin for a faucet in which all the essential elements of the faucet patented by said Jenkins and by said complainants are described and exhibited; and these defendants are advised and believe that by reason of said prior invention the patents granted to these complainants and to said Jenkins are invalid.

These defendants, further answering, deny that they have infringed upon the rights of said complainants by reason of the patents alleged to belong to them, as stated in their bill of complaint; and they deny that they have made or caused to be made any faucet containing the invention described in the specifications of said patents, and claimed by said Jenkins and said complainants.

These defendants, further answering, say that on the twenty-sixth day of August, 1873, Wallace H. Bate, one of these defendants, being the original and first inventor of an improvement in faucets, duly obtained letters patent of the United States therefor; that the only faucets manufactured and sold by these defendants are manufactured according to the specification contained in said last-mentioned letters patent, for the nature and description whereof these defendants make profert of said letters patent,
as this honorable court may order; and they deny that the inven-
33 tion therein described is a copy of, or similar to, the alleged inventions as patented by said Jenkins and by said complainants, as alleged in said bill.

These defendants deny each and every allegation of infringing the rights of said complainants, as alleged in said complainants' bill; and they deny that the faucets made by them resemble, simulate, and counterfeit those made by said Jenkins and said complainants, as is pretended by said complainants in their bill of complaint. These defendants deny each and every other allegation, item, and particular in said bill set forth which has

not been hereinbefore either admitted or denied specifically, and this upon the best of their knowledge, information, and belief.

All of which matters and things these defendants are ready and willing to aver, maintain, and prove, as this honorable court shall direct; and humbly pray to be hence dismissed with their reasonable costs and charges in this behalf most wrongfully sustained.

JULIAN D'ESTE.
WALLACE H. BATE.
JOHN R. McKENZIE.

DISTRICT OF MASSACHUSETTS,
County of Suffolk, ss:

On the fourth day of April, 1874, personally appeared the above Julian D'Este, Wallace H. Bate, and John R. McKenzie, and made oath that the foregoing statements were true, so far as made upon their own knowledge; and so far as made upon information and belief, that they had been informed and believed them to be true.

Before me,
[NOTARIAL SEAL.]

CHAS. H. SWAN,
Notary Public.

Amendment to answer.—Filed May 29, 1874, *by consent.*

The said defendants, leave in this behalf having been granted, amend their answer to said complainants' bill, by inserting, after the fifth paragraph thereof, the following:

34 "And these defendants, further answering, say that the invention described and claimed in the patents granted to said Jenkins and said Roach is fully described in a certain patent granted by Great Britain to Eugene N. Cadet, November 3, 1856, which said patent is numbered 2580 in volume 21 of English specifications, a printed publication. And these defendants say that they believe the drawings annexed as belonging to said specification illustrate the identical invention shown in the alleged invention of said Jenkins and said Roach."

WALLACE H. BATE,
JULIAN D'ESTE,
J. R. McKENZIE,
By GEORGE D. NOYES,
Solicitor.

DISTRICT OF MASSACHUSETTS:

On this twenty-sixth day of May, A. D. 1874, personally appeared the aboved-named W. H. Bate, and made oath that the matters stated in the foregoing amendment to defendants' answer are true, except where they are stated on belief; and as to them, he believes them to be true. Before me, at Boston,

[NOTARIAL SEAL.]

CHAS. H. SWAN,
Notary Public.

Replication.—Filed April 16, 1874.

These repliants, saving and reserving to themselves all and all manner of exception or otherwise to the manifold insufficiencies of the answer, for replication thereto say, they will aver and prove the bill to be true, certain, and sufficient in the law to be answered unto; and that the defendants' answer is uncertain, untrue, and insufficient to be replied unto. Without this, that any matter or thing in the answer, material or effectual to be replied unto, confessed, and avoided, traversed or denied, is true. All
35 which these repliants are and will be ready to aver and prove as this honorable court shall direct; and humbly pray as in and by their bill they have already prayed.

THOS. WM. CLARKE,
For Complainants.

Circuit court of the United States, district of Massachusetts, October term, 1876. In equity.

Joseph Zane et al., complainants, Julian D'Este et al., defendants. (J. R. McKenzie and Wallace H. Bate.)

Decree for perpetual injunction and for reference to a master.

This cause came on to be heard at the May term, 1875, upon the pleadings and proofs, and was argued by counsel for the respective parties; and was thereupon continued for judgment, and so from term to term till now Upon consideration thereof, to wit, November 29, 1876, it is ordered, adjudged, and decreed as follows, viz, that the letters patent referred to in the complainants' bill, being letters patent of the United States granted unto Nathaniel Jenkins for improvemeet in self-closing cocks, dated June 27, 1865, is a good and valid patent; and that the said Nathaniel Jenkins was the original and first inventor of the improvement described and claimed therein; and that the said defendants have infringed the said patent, and upon the exclusive rights of the complainants under the same.

And it is further ordered, adjudged, and decreed that the complainants recover of the defendants the profits which they have received or made, or which have accrued to them from said infringement, by the manu-
36 facture, use, or sale of the improvement described and secured by said letters patent, at any and all times since the twenty-seventh day of January, 1868, and also the damages which the complainants have sustained thereby.

And it is further ordered, adjudged, and decreed that it be referred to John G. Stetson, esq., a master of this court, to take and report to the court an account of the profits which the said defendants have received, or which have arisen or accrued to them from the manufacture, use, or sale of said improvement or from said infringement, and to ascertain and report the damages which the complainants have sustained thereby since the twenty-seventh day of January, A. D. 1868. And as to the letters patent to Francis Roach and Joseph Zane for improvement in faucets, dated September 8, 1868, No. 81948, there has been no infringement thereof.

And it is further ordered, adjudged, and decreed that a perpetual injunction be issued against the defendants according to the prayer of the bill,

as regards said first-named letters patent; and as to the second-named letters patent, that the bill be dismissed.

And it is further ordered, adjudged, and decreed that the complainants recover of the defendants their costs of suit.

By the court:

JOHN G. STETSON, *Clerk.*

A true copy.

[SEAL.] Attest: ALEX. H. TROWBRIDGE,
Deputy Clerk.

37 EVIDENCE FOR COMPLAINANTS IN REPLY.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended before me.

F. F. RAYMOND, 2D,
Special Examiner.

Stipulation.

It is hereby stipulated and agreed that F. F. Raymond, 2d, may act as special examiner in taking the depositions of William Edson and Joseph Zane in the above-entitled cause.

THOS. WM. CLARKE,
For Complainants.
DUELL, WELLS & DUELL,
For Defendant.

BOSTON, *May* 11, 1877.

Present, Thos. Wm. Clarke, esq., of counsel for complainants; and Henry P. Wells, esq., of counsel for defendant.

Deposition of Joseph Zane.

Direct examination by Thos. Wm. Clarke, esq., of counsel for complainants.

JOSEPH ZANE, being duly sworn, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Joseph Zane; Boston; occupation, plumber; sixty-one years of age.

38 Int. 2. Were you acquainted with the late F. H. Bartholomew, of New York, and did you have any business relations with him with regard to his hydrants in 1852?

Ans. I was acquainted with him, and I had such relations.

Int. 3. Please look at the paper now shown you, and say if you know what it is, and in whose handwriting it is?

Ans. That is a letter which I received from Mr. Bartholomew, and is dated in December, 1852. I had considerable correspondence with him at about that time.

(Letter offered in evidence and marked "Bartholomew Letter, F. F. R., special examiner."

The counsel for defendant objects to the introduction of the papers, on the ground that no proper evidence that said letter was written by Mr. Bartholomew has been offered; and second, that the defendant in this action cannot be bound by any declaration of Mr. Bartholomew; and thirdly, that the paper is inadmissible, incompetent, and immaterial.)

Int. 4. Did you subsequently receive from Mr. Bartholomew, in the way of business, circulars issued by his house, relative to the goods made by it; and if so, will you produce the same, and state the time when received, as near as you can?

(The defendant's counsel objects to the production of the papers called for, for the reason aforementioned; and to the entire question, on the ground that it has no relevancy to the issues in this action.)

Ans. Here is one of the circulars received from him; I can't tell the date, but it was a good while ago, in the neighborhood of 1860, I should think; and here is another which I received about the year 1870, I should think; perhaps a year or two later.

(Papers offered in evidence, and marked, the one first produced, "Bartholomew circular 1, F. F. R., special examiner," and the second produced marked "Bartholomew circular 2, F. F. R., special examiner."

Defendant's counsel reiterates objection.)

Int. 5. Will you please produce a Bartholomew hydrant, such as was used and known to the trade as a "hose hydrant" prior to 1865, and explain how it differed from other Bartholomew hydrants, and
39 also state whether you ever knew any other form of Bartholomew hydrant than one with a lever handle on the side?

(Defendant's counsel objects to the question on the ground that this is new matter and should have been introduced, if at all, at the evidence in chief, and that it is in response to nothing in the evidence of the defendants.)

Ans. I do. (Marked for identification "Bartholomew Hydrant Packed Handle, F. F. R., special examiner.") It differs from other Bartholomew hydrants by having a rubber packing around the handle, to make it water-tight, a sort of stuffing-box. I never knew any other Bartholomew hydrant than one with a handle on the side.

Cross-examination by HENRY P. WELLS, Esq., of counsel for defendant:

Cross-int. 6. Did you ever see Mr. Bartholomew write?

Ans. Never noticed it particularly.

Direct examination resumed:

Int. 7. How extensive a correspondence have you had with Mr. Bartholomew?

(The defendant's counsel objects to any testimony in reference to correspondence between the witness and Mr. Bartholomew, for the reasons already stated.)

Ans. I have had a good deal of business with him since 1852. The correspondence on my side was done by my clerk chiefly. I don't think I ever wrote to him much.

JOSEPH ZANE.

[SEAL.] Attest: F. F. RAYMOND, 2d,
Notary Public and Special Examiner.

40 *Deposition of William Edson.*

BOSTON, *May* 11, 1877.

Direct examination by THOS. WM. CLARKE, Esq., of counsel for complainants:

Int. 1. Have you previously been sworn and testified in this case?

Ans. I have.

Int. 2. Have you examined the faucets and hydrants introduced by the defendant in this case, and numbered Exhibits 2, 3, 4, 5, and 6; and do you understand the construction and operation of the same respectively?

Ans. I have examined and do understand their construction and operation.

Int. 3. Please state, with regard to the hydrant Exhibit 3, whether or not it embodies the invention shown and described in the letters patent granted Nathaniel Jenkins, numbered 48407; and give your reasons for any opinion you may have on that subject.

Ans. In the hydrant Exhibit 3 I find a self-closing valve, valve-stem, and what I call a crown snail, so arranged in combination with a hand-wheel, which is also provided with a crown snail, that when the wheel is turned in one direction the valve-stem would be raised so as to take the valve off from the seat. This action is against the pressure of a spring in this hydrant. I also find an upper valve above the outlet and near the top, near the hand-wheel. This valve is attached to the same stem, and serves to check the upper motion of the stem; also, to close water-tight the upper end of the hydrant, and thus prevent the water from coming out at that end. This stem is also provided with what might be called a cross-head, to prevent it from turning around. Now, in the Jenkins patent I find a self-closing valve and spiral follower, which, acting against the valve, opens it, and a spring beneath the valve to close it. The valve is entirely free from the stem, except that the end of the stem comes in contact with it to open it. Jenkins has no upper valve for preventing leakage in that direction, but has a diaphragm that is always acting. In this respect the Jenkins cock differs from the hydrant; that is, the
41 hydrant, when it is partially opened, has nothing in it to prevent water, if it comes in any great pressure, from leaking out at the top where the handle is. This perhaps is no detriment to a hydrant, but if that same contrivance was used in an ordinary faucet, it would be a fatal objection to it. I do not see how it would be possible to so organize the parts that constitute the hydrant that the same would become a practical faucet; for although most of the distinct elements of the one are found in the other, yet they are so differently constructed that it would require considerable invention and ingenuity to form a faucet on the plan and construction of the hydrant.

Int. 4. Have you examined and measured the dimensions of the crown snail on the hydrant, so that you can state what its pitch and proportions are?

Ans. I have measured it, and find its outside diameter is $1\frac{3}{8}$ inches; its pitch is $\frac{7}{16}$ of an inch. This is about sufficient, when everything is smooth and in good order, to allow the pressure of the spring, combined with the weight of that long rod, to make it self-acting under favorable circumstances.

Int. 5. Will you please examine the faucet now shown you and measure the pitch and proportions of the crown snail thereon, and say how they compare with the pitch and proportions of crown snail upon the hydrant?

(Defendant's counsel objects on the ground that it is new matter, and calls for introduction of a new exhibit, and is not in reply to any evidence offered on the part of the defendant, and altogether immaterial.)

Ans. I find that the outside diameter in this faucet of the crown snail is $1\frac{1}{6}$ of an inch, while the pitch is $5\frac{1}{2}$–16; that is, the pitch in the exhibit is decidedly steeper than that in the hydrant.

(Faucet offered in evidence, and marked "Complainants' Exhibit F.")

Int. 6. Please state whether or not that faucet Exhibit F will close by the action of the spring without the aid of an operator upon the handle.

(Defendants' counsel repeats his objection.)

42 Ans. That is not a self-acting stop-cock. I suppose the reason for this is the fact that in reducing from large work to small (defendant's counsel objects to any supposition on the part of the witness), the friction of parts, that is, the friction that prevents working, assumes a very much larger ratio to the working force in small work over that of large work. I have found this in practice as applied to machinery, and certain machines will work if built large enough, and will cease to work entirely if made of the same proportions but smaller; and that is the reason, in my opinion, that though the hydrant may have worked as self-closing, I am sure that the same parts, reduced to the size of an ordinary faucet, following out the proportions, would produce an inoperative faucet as a self-closer. One feature of that hydrant that would prevent its acting as a small faucet is the upper valve, that, being covered with some soft material as it is, would cause a binding between the snail and the open valve-seat, and thus, in my opinion, prevent the thing from self-closing whenever opened hard with the hand.

Int. 7. In making the alteration from the hydrant Exhibit 3 to a faucet of the ordinary size would or would not a workman need, in order to produce a practical self-closing faucet, other information than could be obtained by following the proportions, adjustments, and combinations of parts exhibited in said hydrant?

Ans. A workman would have to have sufficient knowledge from some other source, to make some invention, and exercise considerable ingenuity, before he could construct a faucet by following the hydrant as far as it is possible; that is, I do not think it is possible to make a practical faucet on the exact plan of that hydrant.

Int. 8. Please look at the "Eling" faucet, Defendant's Exhibit 2, and say whether or not that contains the screw follower in combination with the spring and valve, in such manner as is shown and described in the Jenkins patent.

Ans. It does not, in my opinion. This construction is radically different. There is nothing scarcely, in fact, to suggest the Jenkins invention. In the first place, the spring acts circumferentially, while the Jenkins spring acts longitudinally; the valve is a thimble valve or hat valve. I find nothing to represent the screw follower.

43 Int. 9. Please examine faucet Exhibit 5, and state whether or not you consider that to be a practical embodiment of the principle of opening and closing a faucet against this action of a spring by means of a screw follower.

Ans. I should think it was; that is, it might be made practicable. This particular one don't always work; there is a sticking point in one place.

Int. 10. Do you find in that faucet that it is so organized at present as to close by the action of the spring whenever the hand is released from the handle?

Ans. It is not. If this was packed so as to be of any practical use, that is, so the water wouldn't squirt out of the top, I do not think it would work at all. The friction of the packing, in addition to its suction, would prevent its working at all.

Int. 11. Please look at faucet Exhibit 4, and compare the lower side of the handle of the same with the faucet Exhibit 5, and say whether or not the inclined portions which take into the cams on top of the neck of the faucet are of the same character; and, if not, which of the two faucets has inclines most likely to impart a self-closing character to the faucet?

Ans. I find in the Exhibit 4 a stop-cock that looks as though it was completed and all made at one time for some practical purpose. In this there is no self-closing follower. The follower is so arranged to the cross-handle, that when it is turned open wide, the cross-handle rests on the tops of the inclines, where it will remain and keep the cock permanently open until closed by the hand. In Exhibit 5, I find nearly the same construction, but the inclines are steeper, and show evidences of having been recently filed and changed. The cross-handle seems to be a new piece, and that is filed so as to present a V shape to the incline, and thus this stop-cock comes nearer a self-closer. A little more work to it, and done in a little better manner, would make it, perhaps, a self-closer.

Int. 12. Please examine faucet Exhibit 4, and say whether or not there is in that faucet any stuffing-box, or other contrivance, for preventing a flow of water through the neck of the handle; and if so, what it is.

Ans. There is no stuffing-box; but I find a leather diaphragm,
44 which is evidently put in there for the purpose of preventing leakage of water and to take the place of the diaphragm in the Jenkins patent.

(Counsel for complainants here requests defendant's counsel to produce the faucet received by Mr. Soffe from Mr. Waldron, a witness for the defendant, which he said was similar to this number 6; not this faucet, but one exactly like it.

Defendant's counsel replies that he wrote to Mr. Soffe requesting the production of that faucet, and received this, marked for identification, "Waldron Faucet;" and defendant's counsel agrees to produce the same at the hearing.

Complainants' counsel here offers in evidence certified copy from the Patent Office of file wrapper, contents and drawing of letters patent granted Frederick H. Bartholomew, August 12, 1846, No. 4692, for improvement in hydrants, referred to in the answer in this case.

Defendant's counsel objects to the introduction of the papers aforesaid, on the ground that it has nothing to do with this action, and is new matter.

Complainants' counsel offers also certified copy from the Patent Office of file-wrapper, contents, and drawing of letters patent granted Frederick H. Bartholomew, March 7, 1846, No. 4410, improvement in hydrants.

Objected to on the same grounds, and as both of these patents offered apply to inventions not before heard of in this action.)

Cross-examination by HENRY P. WELLS, Esq., of counsel for defendant:

Cross-int. 13. Mr. Edson, in examining Defendant's Exhibit No. 4, that faucet has the appearance of being an old one, has it not?

Ans. It looks like a faucet that was constructed all at one time, and all the parts seem to be somewhat old; there is nothing new about it.

Cross-int. 14. The natural tendency of the use of that faucet when
45 turning the cross-head above the double handle situated on the neck of the cap, would be to lessen the depth of the notch, lessen the depth of the double incline?

Ans. It would.

Cross-int. 15. The difference between Exhibit 4 and Exhibit 5, as to the notch or double incline, consists principally in the depth, does it not?

Ans. It does.

Cross-int. 16. The same is true of Exhibit No. 6, is it not?

(Objected to, as Exhibit 6 has not been examined.)

Ans. It is.

Cross-int. 17. Exhibit No. 6 is a self-closing faucet, is it not?

Ans. It seems to be.

Cross-int. 18. It operates with a double incline, does it not?

Ans. It does.

Cross-int. 19. In the Complainants' Exhibit F, please examine those portions which you called a crown snail, and state whether the same are not covered to a greater or less extent with old oil or gum, or something of that kind—filth of some kind.

Ans. They were considerably gummed up, but not to an unusual extent.

Cross-int. 20. The gum increases the amount of friction, does it not?

Ans. Certainly it does.

Cross-int. 21. Retards the operation of the faucet?

Ans. It does.

Cross-int. 22. Have you ever seen that faucet tried without gum?

Ans. No, sir; never have seen it.

Cross-int. 23. Is the compensation which you received from the defendants in this action, or on behalf of the defendants in this action for appearing herein as an expert, dependent in any way, directly or indirectly, or the amount of the same dependent directly or indirectly, upon the issue of this action?

Ans. It is not, in any sense whatever.

Cross-int. 24. Do you declare on oath that the result of this action is a matter of entire indifference to you?

46 Ans. I can't help sympathizing with my friends in this case.

Direct examination resumed:

Cross-int. 25. Are there any particular signs of wear upon the inclines of the faucet Exhibit 4?

Ans. There is nothing to indicate that the wear would be sufficient to change the character of the faucet in any respect.

WILLIAM EDSON.

[SEAL.] Attest: F. F. RAYMOND, 2d,
Notary Public and Special Examiner.

Bartholomew's letter.—F. F. R., Special Examiner.

NEW YORK, *December* 21, 1852.

Mr. JOSEPH ZANE:

DEAR SIR: Yours of 20th is at hand, stating that "three of the hydrants sent you leak out of the handles," and you desire to "know how to remedy the evil."

The spouts of my hydrants are made so large that it is designed to discharge the water without its rising as high as the handle, and such is the operation in this city, Philadelphia, and Boston, as far as I am informed, except in your case. I conclude that the place where the three leak out of the handle there must be an extra large supply pipe or an unusual high pressure of water, and that the remedy will be to shut off at the stop-cock a part of the supply, so that the spout will discharge all the water without allowing it to rise up to the handle. I have never known more than a few cases in New York where that was necessary. I make hydrants with ¾ inch brass screw spouts for hose purpose, and in such hydrant make a round wrought-iron handle and pack it with rubber packing; and should you find that the remedy I suggest does not do, I can send you three of the hose hydrants' handles packed that can be readily screwed
47 into the same place of the handles now in them, the casting being of same size. The hydrants sent you were not designed for hose hydrants, of course, having no screw spout, and could not be used for such purpose without packed handles.

Shall I not send you some of my hose brass-spout hydrants? I have them ready-made of the common length, only six feet.

I am yours, truly,

F. H. BARTHOLOMEW.

I have not known of but one or two places in this city, and one place out of New York city (except your case), where the evil you mention occurs. My hydrants have a chamber above the spout, being bored out two inches diameter down to the spout, as a receptacle for the water in case it should rise a little above the spout. All below spout is but one inch, and partly filled up by rod.

Bartholemew file-wrapper, &c., of patent No. 4410.—*F. R. R., Special Examiner.*

DEPARTMENT OF THE INTERIOR.

United States Patent-Office, to all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the files of this office of the file-wrapper, contents, and drawing in the matter of letters patent granted Frederick H. Bartholomew, dated March 7, 1846, No. 4410, for improvement in hydrants.

48 In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent-Office to be hereunto affixed this twelfth day of March, in the year of our Lord one thousand

eight hundred and seventy-seven, and of the Independence of the United States the one hundred and first.

[SEAL.] W. H. DOOLITTLE,
Acting Commissioner.

To whom it may concern:

Be it known that I, Frederick H. Bartholomew, of the city, county, and State of New York, have invented a new and useful improvement in the construction of stoop-cocks or valves, and their application of and combination with hydrants, for the purpose of introducing water or other fluids from aqueducts or otherwise; and I do hereby declare that the following is a full, clear, and exact description of the construction and application of the same, reference being had to the annexed specification and drawings, making a part of this specification.

The nature of my invention consists in an improvement in the construction of pistons for valves or stop-cocks, which by the action of the water and atmosphere shall close so gradually and gently as not to destroy lead pipe by concussion, and by which also, when applied in combination with a plunger for hydrants, shall form a chamber into which a portion of water in the hydrant may recede below the action of frost, and not waste into and saturate the earth.

Fig. 1 is a sectional view, by which A A represents the stock of a hydrant, which may be of wood or metal, say five or six feet long, having a hole straight through it of, say, 4 inches diameter. B is a plunger of wood or other material of proportionate length to the stock, and about one-eighth of an inch smaller than the bore through the stock, the top end bended and inclined towards the spout G, having handle C of sufficient strength extending up through the cap F, and on which is fitted and secured an iron handle or knob E.

D D, a hollow plug, inserted into the top of the stock about 5 inches long, for the purpose of preventing water from dashing against and
49 wetting the part of the handle exposed to the weather when the hydrant is closed, and to prevent the handle from being frozen fast. This object may also be effected by constructing the cap F with a hollow hub-cart, with the cap (if made of metal) extending from the lower side downwards about four or five inches; and also the same object may be effected by attaching a dasher or collar on to the handle between the cap F and the top of plunger or piston B.

F is a cap of iron or wood, secured by screws or otherwise, and having a square hole or other shaped hole in the centre, with the handle E working through it, and so fitted to it as not to admit of being twisted around, by a groove and tooth, or by being square.

G is a metallic spout of $1\frac{3}{4}$ inch bore, which screws into the stock, and inclines downwards about one foot from the top of the stock.

H H is a wood plug driven up tight into the bottom of the stock, about five inches long, having a hole in its centre of suitable size to admit the valve or stop-cock I I.

I I is a metallic tube or cylinder of about six inches length, and one and a half inches diameter inside, being closed at the top except an aperture of about three-fourths of an inch, the bottom being closed by a screw-cap M. N is an arm or elbow, to which is attached, by a coupling or other-

wise, the pipe or tube conducting the water, and of same capacity as the pipe or conductor.

K K is a metallic turned piston or plunger, about nine inches long, including the shank R, having a shoulder or flange fitting the bottom end of plunger B. A part of this flange, Y, is square for the purpose of its being screwed into the plunger B. Below the shoulder or flange, and extending about $1\frac{1}{2}$ inches, is a stem about $\frac{3}{8}$ inches in size; thence extending downwards about one inch, the size is increased to about $\frac{3}{4}$ inch, extending downwards of same size, about 3 inches, the size of this last, 3 inches being adapted and just filling the aperture T, in the top of the tube or box I I, so as to work through the aperture easily. Below this part of the piston is a stem or screw about $\frac{3}{8}$ inches thick, and one inch long, on to which is put the leather or india-rubber washer V, which is fastened and secured by nut W.

Fig. 2 is a sectional view of another mode of constructing a valve or stop-cock; A A, the barrel or tube; B, the piston; E, nut securing the washers D G; C, cap screwed on the bottom. This will require more force to open it than that in Fig. 1.

The hydrant, as shown in Fig. 1, is in an opened position (to discharge), the water being received in through elbow or joint N, passing up through box I I, through aperture T, thence up through the space between the plunger B and the hole in the stock A A, out of spout G.

The hydrant is made to discharge by pressing down upon the handle E, which, with the plunger B and the piston or plunger K K, must be depressed about four inches to produce a full discharge, and which upon removing the pressure will rise upward and close by means of the floating of the plunger B (if light enough) and the pressure of the water against the bottom of the piston K K; and when the plunger B and piston K K have risen up until at the point X, Fig. 4*, the piston then cutting off the communication of water, by closing or filling up the aperture T, and still rising more together with the plunger above (the communication being closed) forms at the bottom of the plunger, and above the cylinder I I, a chamber or space, into which the water contained in the space between the stock and plunger B falls below the action of the frost, while at the same time it is retained within the stock of the hydrant, and not permitted to waste into and saturate the ground at its base.

What I claim as my invention and improvement, and desire to secure by letters patent, is the combination of the plunger B with the piston or valve-cock K K, in the manner and for the purpose described. Also I claim the combination of the plunger and piston with the hydrant, substantially as described, said combination effecting the double purpose of checking the concussion from the water, and of furnishing a variable chamber in which the waste water may descend away from the influence of frost, and not waste away into the ground.

I also claim the construction of the piston K K, by which the aperture T is closed before the full closing of the valve, and which, when combined with the plunger, shall furnish a variable chamber for the purpose herein set forth.

(Here follows diagram, marked page 51.)

52 In testimony whereof I, the said Frederick H. Bartholomew, hereunto subscribe my name, in the presence of the witnesses whose names are hereto described, this 27th of February, 1845.

FREDERICK H. BARTHOLOMEW.

HENRY HONE.
CHAS. G. PAGE.

COUNTY AND STATE OF NEW YORK, *ss:*

On this 14th day of June, one thousand eight hundred and forty-five, before me, the subscriber, a commissioner of deeds for the city and county of New York, personally appeared the within-named Frederick H. Bartholomew, and made solemn oath that he verily believes himself to be the original and first inventor of the mode herein described of constructing valves or stop-cocks, and of applying the same to hydrants; and that he does not know or believe the same was ever before known or used, and that he is a citizen of the United States.

JAS. P. HOWARD,
Commissioner of Deeds.

DISTRICT OF COLUMBIA,
Washington County, to wit:

On this 27th day of February, in the year of our Lord one thousand eight hundred and forty-five, before me, the subscriber, a justice of the peace in and for said county, personally appeared Frederick H. Bartholomew, and made oath on the Holy Evangely of Almighty God, that he believes himself to be the original and first inventor of the herein-described improvement in the construction of hydrants, and that he does not know that the same was ever before known or used, and that he is a citizen of the United States.

Sworn before me,

J. H. GODDARD,
Justice of the Peace.

No. 424.]

10 *July*, 1845.

In conformity to an act of Congress entitled "An act to promote the progress of the useful arts," approved 4th of July, 1836, I have
53 received of F. H. Bartholomew, New York, thirty dollars, which sum has been placed to the credit of my account in the Bank of America, New York, under date of 14 June, 1845, and for which I have signed a receipt patent.

W. SELDEN,
Treasurer of the United States.

Hydrant and stop-cock.
Registered.
W. N. B.
R. H. GILLET,
Register of the Treasury.

No. 4410.

Frederick H. Bartholomew.

Town of City New York.
County of "
State of N. York.

Impd. construction of Pistons for valves or stop-cocks.

Rec'd, June 16, 1845
Petition, " " "
Affidavit, " " "
Specification, " " "
2 drawings, " " "
Model, July 7, "
Treasurer's certificate, $30, June, '45.
Examined, Chas. G. Page, Feb. 27, 1846.
Issue, H. H. Sylvester, "
Patented March, 1846.
Recorded vol. 28, page 194.
July 10, Aug. 1.
C.
Exd.—H. M. H., Spec., drs. rtd. Aug. 30, 1845.
" C. K.

54 *Bartholomew file-wrapper, &c., of patent No. 4692.—F. R. R., Special Examiner.*

DEPARTMENT OF THE INTERIOR.

United States Patent Office, to all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the files of this office of the file-wrapper, contents and drawing in the matter of letters patent granted Frederick H. Bartholomew, dated August 12, 1846, No. 4692, for improvement in hydrants.

In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereto affixed this twelfth day of March, in the year of our Lord one thousand eight hundred and seventy-seven, and of the Independence of the United States the one hundred and first.

[SEAL.]

W. H. DOOLITTLE,
Acting Commissioner.

To the Commissioner of Patents:

The petition of Frederick H. Bartholomew, of the city and State of New York, respectfully represents:

That your petitioner has invented a new and improved mode of constructing stop-cocks and hydrants, which he verily believes has not been known or used prior to the invention thereof by your petitioner. He

therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same upon the terms and conditions expressed in the act of Congress in that case made and provided; he having paid thirty dollars into the United States treasury and complied with other provisions of the said act.

F. H. BARTHOLOMEW.

55 COUNTY OF NEW YORK,
State of New York, ss:

On this fifth day of August, A. D. 1846, before the subscriber, a commissioner of deeds in and for said county, personally appeared the within-named Frederick H. Bartholomew, and made solemn oath that he verily believes himself to be the original and first inventor of the herein described improvements in hydrants and stop-cocks, and that he does not know or believe that the same was ever before used or known, and that he is a citizen of the United States.

[SEAL.] JAS. P. HOWARD,
Commissioner of Deeds.

To the Commissioner of Patents:

The petition of Frederick H. Bartholomew, of New York, in the County of New York and State of New York, respectfully represents:

That your petitioner has invented new and useful improvements in hydrants and stop-cocks, which he verily believes has not been used or known prior to the invention thereof by your petitioner; he therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the act of Congress in that case made and provided; he having paid thirty dollars into the treasury and complied with other provisions of the said act. And he hereby authorizes C. M. Keller, J. J. Greenough to act as his attorneys in presenting this application, altering or withdrawing the same as the case may require.

F. H. BARTHOLOMEW.

To all to whom these presents shall come:

Be it known that I, Frederick H. Bartholomew, of the city, county, and State of New York, have invented new and useful improvements in the hydrant and stop-cock, and that the following is a full, clear,
56 and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which figure 1 is a vertical section of a hydrant, with my improvements applied thereto, and figure 2, a section of my improvement as applied to a stop-cock. The same letters indicate like parts.

In the construction of hydrants and stop-cocks for drawing water under the pressure of a heavy column, it has been found very difficult to close the valve by a quick motion, on account of the danger of bursting the

pipes by suddenly arresting the current or flow of water, which produces a concussion proportioned to the height of the head, called the "water ram." To avoid this, recourse has been had to the employment of a screw, which closes the valve very slowly; but as hydrants and stop-cocks are mostly used by negligence and thoughtless persons, either they neglect to close the valve or they turn the screw too rapidly, at the risk of bursting the pipes. The object of my first improvement is to provide a means of stopping off the water, which shall be self-acting, and therefore not liable to accident by negligence, and at the same time effectually avoid the bursting of the pipes by the water ram; and this I effect by closing the valve against the current or flow of the water by means of a spring or weight, the tension or gravity of which is greater than the force of the water, but which gradually overcomes it, and therefore avoids that sudden concussion which endangers the safety of the pipes, the valve thus closed having the effect of safety valve, to yield to any sudden pressure or concussion which might be too great for the pipes. And my second improvement consists in the peculiar manner of employing a stopper on the side of the valve-stem for closing a small water aperture through which is discharged the water contained in the body of the hydrant, to prevent freezing in cold weather, but which may be turned on the stem to prevent the discharge of the waste in warm weather.

In the accompanying drawings (A) represents the body of a hydrant and (B) the valve stem, the lower end of which has the stopper or valve (C) attached to it, its lower end being lined with a disc of leather (*a*) or made with a ground metallic joint to close the aperture (*b*) of the water-pipe (K). The valve-seat (*b*) of the water-pipe is surrounded by a cylindrical chamber (H), and the valve is guided in it by wings (*p*, *p'*), the one (*p'*) being sufficiently large to cover the aperture of a waste-hole (*h*) which runs down obliquely, so that when the valve is open, the rush of water shall pass this aperture nearly in the direction of its axis, and thus prevent, or nearly so, the escape of water. In warm weather, when there is no danger of frost, the wing or flanch (*p'*) is turned so as to cover and close the waste-hole when the valve is closed; and in cold weather it is turned from it so as to permit the waste water to escape through it when the valve closes, thus leaving the body of the hydrant entirely free from water. This is done by turning the cap in which the square end of the valve-stem works. The upper end of the valve-stem (B) is guided by a socket in a metallic cap (F) screwed or otherwise secured to the top of the hydrant. This cap is enlarged within, and at its lower end it is contracted by a flanch (*g*, *g*) which forms an inverted valve-seat, against which fits a leather washer (G) on a collar (E) attached to the valve-stem, so that when the valve is opened this washer is forced up against the valve-seat (*g*) to prevent the escape of water at the top. A strong helical spring (L) is placed on the valve-stem, and acting against the upper part of the cap and the collar of the valve-stem, to force the valve on its seat; and the valve is opened by a lever (N) which acts against the lower end of the collar (E). Or instead of this, the valve-stem may extend through the top of the cap, there to be operated in any desired manner. Instead of the spring (L) for forcing and keeping down the valve, a weight may be substituted, although I prefer the spring.

The discharge spout (M) may be made and placed in any desired man-

ner. The valve-seat, valve, and waste-hole may be variously arranged, without changing the principle of my invention; one modification will be seen, at figure 3, with a ground metallic valve.

(Here follows diagram, marked page 58.)

The mode of applying my first improvement to the simple form of a stop-cock is represented in figure 2, where (A) is the body of the cock; (K) that part of it which screws on to the vessel from which the water or other liquid is to be drawn; (M) the discharge spout; (*b*) the valve-seat; (C) the valve lined with leather (*a*); (B) the valve-
59 stem; (L) the helical spring around it; (F) the cap, and (G) the leather ring which closes up the aperture of the cap to prevent the escape of the water through it when the valve is opened, and which, in this instance, is placed on the top of the valve (C), which in this modification answers the purpose of the collar in the hydrants. I am aware that helical springs have been used to close the valves of hydrants and stop-cocks; but heretofore springs have been employed to close the valve in the direction of the flow of water, and not against it, and therefore could not produce the effect intended and accomplished by me. And I am also aware that hydrants have been made with a waste-hole for the discharge of the waste water after the closing of the valve; but these have been so made as to render it necessary to open the waste-hole on closing the valve, and without the means of closing it when the valve is closed; in which case it is not desirable to carry off the water left in the body of the hydrant.

What I claim, therefore, as my invention, and desire to secure by letters patent, is the method, substantially as herein described, of closing the valve of a hydrant or stop-cock by a spring or its equivalent against the flow or pressure of the water or other liquid, whereby I am enabled to prevent any injurious result from the water ram, as described. And I also claim making the waste-hole of the hydrant oblique, in combination with the shifting-stopper, substantially as herein described, whereby the flow of water is prevented, or nearly so, whilst the valve is opened, and the water within the body of the hydrant retained or discharged when *then* the main valve is closed, as described.

F. H. BARTHOLOMEW.

Witnesses:
JAS. P. HOWARD.
W. ADAMS.

60 No. 1272.] 25 JANUARY, 1846.

In conformity to an act of Congress entitled "An act to promote the progress of the useful arts," approved 4th of July, 1836, I have received of F. H. Bartholomew, New York, twenty dollars, which sum has been placed to the credit of my account in the Bank of America, N. Y., under date of 19 December, 1845, and for which I have signed a receipt caveat.

W. SELDEN,
Treasurer of the United States.

Hydrant and stop-cock.
Registered.
R. H. GILLET,
Register of the Treasury.

CITY AND STATE OF NEW YORK, *ss:*

On this thirtieth day of January, 1846, before the subscriber, a commissioner of deeds for said city, personally appeared the within-named Frederick H. Bartholomew and made solemn oath that he verily believes himself to be the original and first inventor of the mode herein described for constructing hydrants and stop-cocks, and that he does not know or believe the same was ever before known or used, and that he is a citizen of the United States.

JAS. P. HOWARD,
Commissioner of Deeds.

No. 1626.] 4 MARCH, 1846.

In conformity to an act of Congress entitled "An act to promote the progress of the useful arts," approved 4th of July, 1836, I have received
of F. H. Bartholomew, New York, ten dollars, which sum has been
61 placed to the credit of my account in the Exchange Bank, D. C.,
under date of 2d March, 1846, and for which I have signed a receipt patent.

W. SELDEN,
Treasurer of the United States.

Stop-cock.
Registered.
W. B.
R. H. GILLET,
Register of the Treasury.

No. 4692.

Frederick H. Bartholomew.

473.

Town of city and
County of and
State of New York.

Construction of stop-cock.

Rec'd, F'b'y 26, 1846.
Petition, "
Affidavit, "
Specification, "
2 drawings "
Model, "
1 treasurer's certificate, $20, 21 Dec., '45
2 $10, 26 Feb'y, '45.
3 examined, Fitzgerald, August 7th, 1846
Issue, H. H. Sylvester, 10.
Patented Aug. 12th, 1846.
Recorded vol. 29, page 563.
Keller & Co.
Sp. dr. returned June 12, 1846.

Sp. returned July 16, 1846.
Ex'd—C. K.
H. M. H.

(Here follow 2 diagrams (circulars), marked pp. 62 & 63.)

64 Circuit court of the U. S., southern district of New York.

JOSEPH ZANE ET AL., COMPLAINANT,
vs.
HENRY SOFFE, DEFENDANT.

Testimony taken under the 67th rule of the Supreme Court, as amended, on behalf of the defendant.

NEW YORK, *April 11th*, 1877.

Met pursuant to notice at the office of Deuel, Wells & Deuel.

Present, Henry P. Wells, esq., of counsel for defendant; Thomas W. Clarke, esq., of counsel for complainant.

Testimony taken before J. M. Deuel, esq., examiner.

Defendant's counsel offers for identification a certified copy of the letters patent No. 148520, dated March 10th, 1874, granted to Henry Soffe, for an improvement in faucets, and calls as a witness the defendant

65 HENRY SOFFE, who, being duly sworn, testifies as follows:

Q. You are the defendant in this action, are you not?

A. Yes, sir.

Q. What is your business?

A. Brass faucet manufacturer and dealer in plumbers' materials.

Q. How long have you been in that business?

A. About thirty years.

Q. You are practically acquainted, are you, with the business?

A. Yes, sir.

Q. You are the grantee of the patent which was offered in evidence?

A. Yes.

Q. Will you please produce a faucet made in accordance with the patent?

A. This one.

(Marked "Defendant's Exhibit 1, J. M. D.")

Q. Do you make any other self-closing faucet except that?

A. Yes, sir.

Q. Have you any recollection of selling that faucet to one James Hause?

A. I have no recollection of it.

Q. Is the faucet made in accordance with the specification of your patent?

A. It is, except that it is cut out here with a view of showing the operation.

(The complainant's counsel admits that that is the faucet which they claim infringes the Jenkins' patent.)

Q. Can you tell from that bill what style of faucet was sold?

A. It was precisely like that, with the exception, as I say, that it was cut out to show its operation.

(Counsel for the defendant requests the counsel for the complainant to produce a faucet made under and in accordance with the Jenkins' patent.

Counsel for complainant produces a faucet marked upon tag, Zane et al. vs. Deste et al.

Another, marked "Jenkins' Cock, Exhibit 3, J. G. S., examiner."

Also another, marked "Zane vs. Deste, Complainant's Exhibit 7, November 4th, 1874, J. G. S., examiner."

66 Also a skeleton cock, to which is now attached tag, marked "Jenkins' Faucet, Third Form."

Also another cock, marked with the title of this case, "Bate Faucet," and states that all four of these faucets are made under and according to the Jenkins' patent, the first three by the owners of the patent, and the fourth by an infringer.)

Q. Have you seen that hydrant before?

A. Yes, sir.

Q. Who owns it?

A. I own it.

Q. Where did you get it?

A. I bought it of Mr. Bartholomew.

Q. I ask you to compare that hydrant with the faucet marked "Jenkins' Faucet, Third Form," and state the points of resemblance or difference between their methods of operation.

(Objected to, no foundation having been laid, either in the qualification of the witness or in the history of the hydrant. Hydrant marked "Def't's Ex. 3, J. M. D., ex.")

Q. Are you familiar with the working parts of that hydrant?

A. I am, sir.

Q. Describe first the faucet, beginning at some certain point in the faucet; describe that part and then the corresponding part of the hydrant, and state whether they are similar or dissimilar, and in what respect?

A. I find in the faucet a chamber with an inlet and an outlet; I find in the hydrant the same—an inlet and an outlet; I find a valve situated in the bottom part of the faucet, and also a valve situated in the bottom part of the hydrant; I find a stem running up through the chamber and cap in the cock, and fastened with a washer at the top; I find the same in the hydrant; I find in the cap a screw with a quick-thread on the top of the faucet; I find the same on the hydrant.

Q. On what part of the faucet is that thread situated?

A. I have just stated; on the top part—on the neck of the faucet; the same on the hydrant; I find a washer nut and rivet, confining the nut in its place, and a nut and screw and washer in the faucet, on the top part of the neck of the faucet; I find the same in the hydrant; I find, also, a spring in the faucet underneath the cap, resting on the valve; I find the same in the hydrant.

Q. What is the spring for; what does it do?

67 A. The spring is for the purpose of closing the valve; I find the same in the hydrant; I find in the faucet when the screw is turned the spring is compressed; when the handle is released from pressure the spring expands and closes the valve; I find the same arrangement in the hydrant.

Q. When the handle of the faucet is turned, what is the action of the valve stem of the faucet—does it rotate?

A. The action is perpendicular—upward; it is pressed upward; as the nut runs up it carries with it the valve-stem screw like a piston.

Q. Does the valve-stem rotate upon it?

A. It does not in the faucet, neither does it in the hydrant.

Q. How is that rotation of the valve-stem in the faucet prevented when the handle is turned; why doesn't the valve-stem rotate?

A. Because it runs up loose through the screw.

Q. How is the handle connected with the valve-stem of the faucet?

A. By a nut and washer.

Q. Is there any difference between the hydrant and faucet in these last two particulars of which you have spoken?

A. No difference except that the handle in the hydrant is confined by a washer and a rivet, and in the faucet by a washer and a screw.

(At the request of defendant's counsel, complainants' counsel states that the claim of infringement in this case is confined to the first claim in the Jenkins' patent.

The faucet marked "Zane et al. vs. Deste et al., Jenkins' Cock, Exhibit 3," the attention of the witness having been called to that faucet, and the same having been handed to him, and at the same time the Jenkins' letters patent, he is asked to state whether, in his opinion as an experienced manufacturer of that article, that faucet is practically operative and of value; and, if not, to state why not.

Objection continued.)

A. I should say it was not.

Q. Now, state why not.

A. I find that there is something wanting that is called for in the drawings and specifications; that is, the diaphragm. This faucet relies upon the spring and the pressure to close it, and it closes with the press-
68 ure. I consider that fatal to any faucet used for water purposes, inasmuch as it shuts so suddenly as to create a reaction likely to burst the pipes with which it is connected—the ordinary pipes in use. I find the valve made of rubber, but the fact of the seats being somewhat elastic does not prevent that reaction.

(Objection continued.)

Q. How long have you been manufacturing faucets?

A. More than thirty years—about thirty years. I have been through this matter often—shutting with the pressure; and have abandoned it as often.

Q. Do you know of any other self-closing faucet made and in use prior to the year 1865 in which that portion of the faucet described in the specifications of the Jenkins patent as the screw-follower H works in combination with the valve of a self-closing faucet?

A. Yes; I do.

Q. What faucet is it?

A. The Elnig faucet.

(Answer objected to, as the faucet in question is not set up in the answer in this case.)

Q. Can you produce such a faucet?

A. I can, sir. (Producing sample.) Here it is.

(Marked Zane *vs.* Soffe, Def'd't's Ex., No. 2, J. M. D.)

Q. Open that faucet and describe the shape and method of operation of

that part of the faucet which answers to the screw-follower H, if any, and describe the operation of that faucet.

A. I find in the Elnig faucet a coil spring.

Q. Is it or is it not a self-closing faucet?

A. This is a self-closing faucet.

Q. Describe the part, if any, that corresponds to the follower H.

A. The nut that is operated by this square I consider the same as the screw-follower in the Jenkins' patent; the nut of the square catches the screw-follower and opens the valve.

Q. State how the valve-stem in the Elnig faucet is constructed.

A. The valve-seat projects up through the centre with a coil spring; on the valve-stem is chased a thread. The screw-follower H forms a capping, and the valve-seat is operated by a square washer which fits over it, confining it to its place by a cap; that square washer being connected with the nut, moves with it, and in its movement raises the screw-fol-
69 lower and allows the water to run. The moment the nut is released the spring carries it back to its seat and stops it off.

Cross-examined by Mr. CLARKE:

Q. Do you know whether or not the coil spring of the faucet just produced by you, in which the coils are not of the same size, and in which they surround a common centre, has any particular name in the arts?

(Objected to as immaterial, having no bearing on the issues in this action.)

A. I do not know that it has in the arts; it may have.

Q. Do you know whether the coil spring of the Jenkins faucet, in which the coils are of the same size and arranged one above another on an axis, has any particular name in the arts?

A. Yes, sir; I do.

Q. What is it?

A. What is the name?

Q. Yes.

A. The spiral or helical spring.

Q. Do you know what a volute spring is?

(Objected to upon the same ground as before.)

A. I do not.

Q. Do you consider that a spring acted upon by coiling, and acting by uncoiling, performs its duty in the same way that a spring of a spiral or helical form performs its duty when acted upon by compression and acting by resilience?

(Objected to as immaterial, and as having nothing to do with the issues in this action; the first claim in the Jenkins patent calling for the screw-follower H, in combination with the valve of a self-closing faucet, and therefore it is immaterial as to what means are used to make the faucet a self-closer.)

A. No; but it will accomplish the same results in many cases.

Q. Do you consider it to be a matter of indifference in the actuation of a self-closing faucet, whether the nuts of the faucet be moved to accomplish the opening of the valve, or whether the nuts be stationary and the valve be operated by a special handle?

70 (Objected to as before, the only question being a combination of the screw-follower H with the valve of the self-closing faucet.)

A. I consider it a matter of indifference if the same result can be accomplished.

Q. Then it is the result that determines the question of the likeness or unlikeness, is it?

A. No; I should not like to say that it was in all cases.

Q. When did you buy the hydrant that has been produced?

A. I think, as near as I can remember, about two months ago.

Q. When did you first see this specific hydrant?

A. I believe I saw this hydrant—this identical hydrant, it might be—at the Crystal Palace Fair, held here in 1853; along there, as near as I can remember.

Q. (By defendant's counsel.) You mean the New York Crystal Palace?

A. Yes; I think I saw this identical hydrant, and others precisely like it, there on exhibition.

Q. When you bought this hydrant of Bartholomew & Co. you asked I suppose, for a self-closing faucet, did you not, and had this delivered to you as a self-closing faucet?

A. I do not remember asking for a self-closing faucet at the time this was bought; I may or I may not have asked for it.

Q. But this was delivered to you by Bartholomew & Co. as a self-closing faucet?

A. As a self-closing hydrant or faucet; we consider them the same thing in art and trade.

Q. Then, if a man asked you for a hydrant you would deliver him a faucet, would you?

A. No.

Q. Or, if he asked you for a faucet you would deliver him a hydrant, if they are the same thing in the arts and trade?

A. No; they are the same thing in form, I should have said, and they accomplish the same purpose in controlling the water; if he were to ask me for a Bibb faucet I should not offer him a basin faucet, although they are the same in principle, and designed for the same purposes.

Q. In the construction of this hydrant produced is there not a pipe leading from the nozzle to the bottom of the post?

A. There is not a pipe.

Q. By what means does the water reach the nozzle from the pipe which appears at the bottom of the post?

71 A. It passes from the pipe or valve at the bottom into the wood and so on up to the nozzle—through a hole in the wood up to the nozzle—precisely as it does in a basin faucet—a self-closing basin faucet.

Q. Is there not this specific difference between this hydrant and a faucet, that above the valve seat opening into the cavity of the post which leads to the nozzle there is a hole to allow the discharge of water from the cavity of the post just described, while there is no such hole in a faucet?

A. There is not that specific difference. There is a waste-hole in faucets also. Faucets intended to be used under ground, or in the ground, or in other places connected with water-closets, have a waste-hole in them. The object of the waste-hole is to take away the water and prevent frost, to prevent any remaining in the pipes and being frozen. We put them

into faucets connected with water-closets, self-closing faucets as well as other faucets.

Q. Is there not this distinction between a hydrant and a faucet, as the terms are commonly used, that the valve of a hydrant is placed under ground, while the valve of a faucet is placed upon the service-pipe above the ground?

A. That makes no difference at all further than that they are used for different purposes and placed in other places. Faucets are used in hydrants. A hydrant is really a faucet, only it is built to serve a certain purpose, the purpose of an ordinary Bibb faucet.

Q. And you are prepared to swear, are you, that a hydrant is called, in the plumbers' trade, a faucet?

A. No; it is called a hydrant to distinguish it from the ordinary faucet; it is just a mark of distinction; its principles and purposes are the same—just the same as we distinguish a Bibb cock from a basin cock, by calling them a Bibb faucet and a basin faucet.

Q. You swear, then, that that is all the distinction there is between a hydrant and a faucet, the same distinction that exists between a Bibb cock and a basin cock?

A. I can see no other, sir.

Q. The hydrant always has a waste-hole for the water, does it not?

A. Not always.

Q. The valve or the hydrant is always placed below the ground, is it not, when in use?

A. I suppose it is; they could be used, though, in other places above ground just as well, although they would be cumbersome in shape.

72 Q. Which has the longest valve-stem, a Bibb cock or a hydrant?

A. A hydrant.

Q. Which has the longest valve-stem, a hydrant or a basin cock?

A. A hydrant.

Q. In a Bibb cock and a basin cock the valve-stems are usually of the same length, are they not?

A. I should say they were about the same; there may be some difference.

Q. You have said something about a valve closing with the pressure being impracticable; has not a cock, called the Fuller cock, been in pretty extensive use for some time, in which the valve is a rubber ball, which closes with the pressure?

A. I heard of such a cock; I do not know how many years they have been in use, if any number of years.

Q. Did you ever see one?

A. Yes; I had some of them in my shop, for old brass, and melted them up.

Q. Do you not know that the manufacture of those cocks is carried on to this day in the city of New York, and that they are advertised pretty largely?

A. Yes, I know that such a cock is advertised pretty largely.

Q. Do you not know that there is, and has been for a considerable number of years, a self-closing cock, used particularly on urinals, where the valve is depressed against the pressure, and closes with the pressure by means of a simple knob on the end of the valve-stem?

A. I knew of such a cock being used a good many years ago, but it has gone out of use, because it was impracticable—because of its jarring the pipe as I said before, and bursting it.

Q. Then, what you mean by impracticable in a cock which closes with the pressure is that it is not so good as one which closes against the pressure, is it not?

A. Yes, it is; I mean that.

Q. You do not mean to be understood that it would not work at all, do you?

A. Oh, no.

Q. You think it is not so durable and strains the pipes more?

A. Yes, sir; that is generally known in the trade.

Q. When did you first see the Elnig faucet that you have produced?

73 A. I first saw that, as near as I can remember, I think, about two months ago.

Q. Do you know how extensively that ever went into use?

A. I do not.

Q. Do you know where it was made?

A. I do.

Q. Where was it?

A. It was in this city; I knew the manufacturer well; he was a partner of mine for a short time; that he described as a self-closing basin cock, in which the screw does all the opening and the spring all the closing.

Q. What is it that forms the valve in this faucet—the nut which seems to have four small holes bored into its cavity and which has a screw cut upon the interior of the cavity, is that the valve?

A. That is the valve, sir.

Q. The valve-seat, then, is upon the top of what you call the screw-follower, is it?

A. I call the valve the screw-follower; it answers the double purpose of a valve and screw-follower; the screw is stationary, the stem of the faucet is stationary, whilst that little square cap is made to follow the screw up and down by rotating the nut to which the outlet is attached.

Q. Then what you call the screw-follower has a screw cut upon its inside instead of its outside?

A. Yes, instead of its outside.

HENRY SOFFE.

Subscribed and sworn to before me this 21st day of April, A. D. 1877.

J. M. DEUEL, *Examiner.*

DAVID MORRISON, a witness called on behalf of the defendant, being duly sworn, testifies as follows:

Examined by Mr. WELLS:

Q. What is your business?

A. Manufacturer of brass faucets.

Q. How long have you been in that business?

A. Thirty-nine years.

Q. Were you acquainted with one Frederick H. Bartholomew?

74 A. Yes, sir.

Q. How long were you acquainted with him, and what was your connection with him?

A. Since 1846; I was his foreman.

Q. When did you cease to be foreman for Mr. Bartholomew, or leave his employ?

A. In 1856.

Q. Have you been in the business of manufacturing faucets and plumbers' goods ever since?

A. Yes, sir.

Q. Were you in that business during the war?

A. I had my shop; I had my business.

Q. You were in the army, were you not?

A. Yes, sir.

Q. How many years?

A. Three years.

Q. What rank did you hold in the army?

A. My rank was captain, major, lieutenant-colonel, colonel, and brevet-brigadier.

Q. Have you ever seen the hydrant marked "Defendant's Exhibit No. 3" before; and, if so, state when and where?

A. I would not swear that this is the same hydrant, but I have made hydrants similar.

Q. During what time?

A. Between 1846 and 1856.

Q. During that time did Mr. Bartholomew manufacture and sell self-closing hydrants like the one shown you?

A. Yes, sir.

Q. During what time did he manufacture them?

A. Between 1846 and 1856. He makes them now—at least his successor does.

Q. Were these hydrants in public use?

A. Yes, sir.

Q. Do you know of any of these hydrants being on public exhibition anywhere during that time?

A. Yes, sir.

Q. State where, please.

A. He had them at the Crystal Palace.

Q. What Crystal Palace—the New York Crystal Palace?

A. The New York Crystal Palace. He had his hydrants at the London Exhibition, I think, in 1851.

Q. Was it the first exhibition in London?

A. Yes, I suppose so; 1850 or 1851. He had a hydrant there.

75 Q. By what name, if any, were those hydrants of Mr. Bartholomew's known during that time in the trade?

A. Bartholomew's self-closing hydrants.

Q. Will you compare the method of construction and operation of the faucet marked "Zane vs. Soffe, Jenkins' Faucet, third form," with the method of construction and operation of that hydrant, and state wherein they resemble and differ from one another?

A. Well, this has more of an incline (pointing to the faucet), but it is the same thing; it is just the same thing, with the exception that the hydrant has a longer stem.

Q. How is the cap of that faucet made—constructed?

A. There is a double incline cut on it. There is a curve inside to travel on the incline.

Q. How does the hydrant compare with the faucet in that respect?

A. This wheel-cap has a cam to fit on the incline.

Q. Are they alike or dissimilar?

A. They are the same, only the one has more of an incline than the other; but they are the same thing.

Q. When the valve-stem is raised by turning the handle of the faucet, and the handle is released, how is the valve in the faucet closed?

A. Closed by a spiral spring.

Q. How is it in the hydrant?

A. The same.

Q. What is the difference in the method of operation of a hydrant and a faucet?

A. No difference; I want you to understand that he made two kinds of hydrants. I cannot swear that this is the hydrant he had on exhibition at the Crystal Palace in London.

Q. Did he have on exhibition at the Crystal Palace in New York hydrants like that?

A. He had at New York at the fair of the American Institute. One works with a handle and the other works with a wheel.

Q. But he had hydrants like that on exhibition at the Crystal Palace in New York and at the American Institute fair before the year 1856?

A. Yes, sir; that is right.

Q. Now I ask you to look at these three faucets, marked "Defendant's Exhibits 4, 5, and 6," and state whether you have ever seen those faucets before; and, if so, where, and give their history, as far as you know?

76 A. I believe that is the first faucet that Mr. Bartholomew made of that kind (Defendant's Exhibit 4).

Q. When was it made?

A. That faucet was made about 1854. It may have been a year before that—about that.

Q. Did Mr. Bartholomew manufacture and sell that faucet and introduce it into public use?

A. Yes; when it was perfected.

Q. In what form was it perfected?

A. This is the faucet (Defendant's Exhibit 6). This is about the style that they made and sold. This is unsaleable (Defendant's Exhibit 4). Bartholomew experimented with this. I don't know whether I made that; I think likely enough I did; either myself or one of the boys. I saw it made.

Q. It was perfected, as I understand, and introduced into general use in this form?

A. This is the way the faucet was made that was sold to the plumbers (Defendant's Exhibit 6).

Q. How was that faucet known in the trade—by what name?

A. Bartholomew's self-closing cock.

Q. What opens that faucet?

A. The T handle; the traveller on the incline, on a double incline.

Q. And what closes the valve?

A. The spring—the spiral spring; I might also say, if I say anything, that he made them with screws, too; he made faucets with screws.

Q. Screws where?

A. A screw on the cap and a screw on the stem.

Q. Working in opposition to the spring?

A. Yes, sir.

Q. Were these faucets that you have last spoken of self-closing faucets?

A. Yes, sir.

Q. Did they go into public use?

A. Yes; all of Bartholomew's work was self-closing; he claimed a patent; Bartholomew's work is all self-closing, I think.

Q. Please examine the faucet now shown you, and marked "Zane et al. against D'Este et al., Jenkins' Cock, Exhibit 3, J. G. S., Examiner." Examine that faucet, and state whether Mr. Bartholomew made any self-closing faucet in which the stem of the valve, or the post which
77 operated the valve, had a screw cut upon it, and a corresponding screw in the cap, working in opposition to a spring.

A. Yes, he made it.

Q. Have you examined the Jenkins patent?

A. No, I have not.

(The Jenkins patent handed to witness.)

Q. The first claim in that patent is the screw-follower H in combination with the valve on a self-closing faucet; state wherein Mr. Bartholomew's faucet, which you have spoken of, differed, if it did differ in that particular, from this faucet and from the claim of this patent.

A. The cut that I am now looking at?

Q. Only this part of the cut. That is all I call your attention to—the form of this screw-follower H in combination with the valve of a self-closing faucet; state wherein Mr. Bartholomew's differed from that, if it did differ.

A. This has a square thread and screw; Bartholomew's had a screw with what we call a round thread.

Q. That was all the difference?

A. That was all the difference in that part; the screw in the cap and the screw in the spindle are the same.

Q. The same as described in that patent?

A. Yes.

Q. The construction of what he called his "screw-follower H?"

A. The screw in Bartholomew's cap was the same as this one; it was a round thread in the screw, and the spindle was the same as that one, which had a round thread to correspond, the same thing; this has four threads in it; he didn't have four threads in his. (The faucet referred to by the witness is marked "Zane et al. ag'st D'Este et al. Jenkins' Cock, Exhibit 3, J. G. S., Examiner.") I made these cocks myself.

Q. When did you make those cocks; at what time?

A. In 1854.

Q. Did you sell any of them?

A. Yes, sir; I had these cocks on the sink in the shop for exhibition.

Q. During what period did you have those cocks on exhibition at the shop?

78 A. Oh, all the time; I think I had them on for five or six years, I should say; may be more.

Q. During what time was that?

A. Probably ten years altogether; I saw them there all the time.

Q. Prior to the war?

A. Oh, yes.

(At the request of defendant's counsel, plaintiff's counsel stipulates to produce at the hearing and on all necessary occasions in this case all models marked for identification and examined by defendant's witnesses.)

Q. Will you be kind enough to examine the drawings and specifications of the Jenkins patent and the Jenkins faucet, Exhibit 3, heretofore referred to, and state whether, in your opinion as a practical faucet manufacturer, the faucet there shown is practically operative and of value?

A. This faucet will operate, but it shuts off with the water and by means of this spring, and will be apt to burst the pipe; it is not as good as the other.

Q. What is the general reputation in the trade of faucets in which the valve closes with the action of the water, as in excellence or otherwise?

(Objected to as not an inquiry into the state of the art prior to June 27, 1875, or the state of the trade, and things prior to 1875, which is the only thing that can affect the Jenkins patent.)

A. A self-closing faucet was used, to close with a pressure, in the city of Glasgow, to my knowledge, over forty years ago. They were abandoned because of the concussion created in the pipe by the sudden closing of the faucet, which would burst the pipe.

Q. Examine the drawings and specifications of the Jenkins patent and the model which you have just looked at, and the faucet marked "Defendant's Exhibit 1," and state what points of similarity or dissimilarity you find in them. You may confine yourself to that portion of the faucet which is designated in the specifications as the screw-follower H.

A. There is no screw-follower H in the cock or faucet. (Defendant's Exhibit No. 1.) I call it a cock, or faucet.

Cross-examined by Mr. CLARKE:

79 Q. It was Defendant's Exhibits Nos. 4 and 5, was it not, that were in use in Mr. Bartholomew's shop during the period you have stated?

A. That was not in use in the shop; I think not.

Q. Please look at the handle of Exhibit 5, and tell me if that is not a more recent construction than the rest of the faucet.

A. Yes, sir; it is.

Q. Look at the top of the cap of this Exhibit 5, and tell me if that has not been recently filed.

A. I cannot see any file marks on that. I could not tell whether it has been recently filed or not.

Q. Does not the top of the valve-stem bear marks of filing recently?

A. Yes; that looks like it.

Q. Please compare the appearance of the inclines at the top of the cap of Exhibit No. 4 with those at the top of the cap of Exhibit No. 5, and say whether those in Defendant's Exhibit No. 5, do not appear to be brighter and fresher than those in Exhibit No. 4.

A. They do.

Q. Do you know where these two faucets, Nos. 4 and 5, came from?

A. To my own personal knowledge, I do not. They came originally from Bartholomew's shop. I know the parties they came from.

Q. Do you know where the hydrants came from last?

A. No.

Q. Was not the hydrant most generally sold by Mr. Bartholomew, during the time you were with him, a hydrant that operated by the depression of a lever instead of by a twist motion and screw?

A. Yes, sir.

Q. How many of these twist-motion hydrants do you remember to have sold, and to whom?

A. I cannot tell how many were sold at this date. The two hydrants were different hydrants. This hydrant was used as what we call a "hose" for attaching hydrant hose to the brass nozzle. These posts had to be sound, because they had to stand the pressure of the Croton water. These were not recommended to the plumbers, because, if there was a check in them they would generally show a leak. The hydrant with the lever had an inch and a half nozzle in it, an iron nozzle to deliver from the post, and there was no strain on the post.

Q. What is the size of that?

80 A. This has a three-quarter nozzle. This is a hose-hydrant, what we use as a hose-hydrant, which we could attach a hose to.

Q. Did you ever see one of these twist-motion hydrants operated with a hose?

A. Yes, sir.

Q. How many men did it take to operate it?

A. It took a boy to operate it, or one man.

Q. Then the valve could be left open, while the water was running through the hose, without being held by the hand, could it not?

A. You could fasten it open. You could not leave it open. You could leave it open by putting a piece of stick right in there; but if you took the stick out it would shut—(witness illustrated by pointing to the perpendicular joint in the spiral as the place where the piece of stick could be put) the same as you could put a nail in the Jenkins faucet, third form.

Q. That was the way that it was intended that the boy should play the hose, wasn't it, rather than to stand by and hold on to the handle, or to have another boy hold on to the handle?

A. Yes, sir.

Q. Do you know when "Defendant's Exhibit No. 6" was made?

A. When this same thing was made?

Q. Yes; this identical thing.

A. No; I cannot tell the date when that was made.

Q. Will you please look at it, and tell me whether it does not bear the appearance of having been recently made?

A. That is a new cock.

Redirect:

Q. Is there any difference between the faucet marked "Defendant's Exhibit No. 6," and the form, shape, and style of the faucet which Mr. Bartholomew manufactured and sold prior to the war, as his self-closing faucet?

A. Yes, sir; there is a difference. The cock that Bartholomew sold generally was a Bibb cock and had a bend in it. This is a stop-cock.

Q. Is there any difference in the operation of the cock?

A. No; it is the same thing precisely; only one had a bend to the nozzle.

81 Q. Do you know who made this faucet, "Defendant's Exhibit 6?"

A. Yes, sir.

Q. Who did make it?

A. I made it.

Q. When did you make it—about?

A. About six or eight weeks ago—a couple of months ago.

Q. Have you ever made any faucets like this before you manufactured that?

A. Yes, sir.

Q. Since when?

A. Since 1867.

Q. Did you make them from 1867 to the present time?

A. I made them when we were ordered to make them that way, and with the lever, when we were ordered to do it.

By Mr. CLARKE:

Q. When did you begin to make cocks like Exhibit 6 in your own business?

A. I have made them, one or two at a time, several years ago; I cannot tell how many years.

Q. Was it before or after the war that you began?

A. After the war; up to the war I made work for Mr. Bartholomew in my shop.

By Mr. WELLS:

Q. Did you make those faucets for Mr. Bartholomew up to the time of the war?

A. No, sir; I did not; not up to that time; we made water-closets; at the commencement of the war we each had a shop of our own; it was after I left Bartholomew that I used to make work for him; his shop was not large enough, and he would give me some of his work to make.

By Mr. CLARKE:

Q. Did you begin to make faucets like Exhibit 6 before the year 1867?

A. No; I didn't make them before that in my own shop; I made them for Mr. Bartholomew.

DAVID MORRISON.

Subscribed and sworn to before me, April 21, 1877.

J. M. DEUEL,
Examiner.

82 THOMAS W. G. COOK, a witness called on behalf of the defendant, being sworn, testifies as follows:

By Mr. WELLS:

Q. What is your name and occupation?

Thomas W. G. Cook, experimental machinist and model-maker, No. 41 Greene street.

Q. How long have you been in that business?

A. Directly in that line about eight years.

Q. Are you familiar with mechanical principles?

A. Thoroughly familiar with every movement of mechanism.

Q. I will ask you to compare the faucet, marked "Jenkins' faucet, 3d form," with the hydrant, marked "Defendant's Exhibit No. 3," and state the points of resemblance and dissimilarity in their construction and method of operation.

A. It is sufficient to say that I consider that there is no material difference except in the size and mode of fastening the handle.

Q. Give a description of one and then compare it with the other in detail in each part.

A. I will commence with the form of the cock, which has an inlet and outlet for water, the same as the hydrant; in the faucet, the valve presses to its seat in the same manner, and is forced upwards by the sectional screw, in the same manner as the hydrant; it is also provided with a spring for pushing the valve back to its seat, and checking the water, and in every manner is made the same as the hydrant, with the exception of the fastening of the screw on the top of the piston.

Q. Compare the drawings and specifications of the Jenkins faucet with the Soffe faucet, and state what part, if any, of the Soffe faucet corresponds or is equivalent to the part designated in the Jenkins patent, as the screw-follower H.

A. In what way they correspond?

Q. Whether you find the screw-follower H in the Soffe faucet either actually or substantially?

A. In the Soffe patent I find no screw-follower. I find no diaphragm.

Q. Do you find any part in the Soffe faucet which substantially answers to the screw-follower H described in the Jenkins patent?

A. I do not.

Q. Examine the faucet now handed you, and marked "Defend-
83 ant's Ex. No. 2," and state wherein the same differs from the Jenkins patent, Ex. No. 3, as before, as to the screw-follower H, in combination with the valve in the self-closing faucet.

A. I find them materially the same, both having a screw-follower to effect the opening of the valve; the only point of difference between the two cocks is, that the Jenkins cock is operated by the handle, and Ex. No. 2 is operated by the pipe handle which the water flows through.

Q. Is the defendant's Ex. No. 2 a self-closing faucet?

A. It is.

Q. Does it or does it not contain substantially the screw-follower H, described and set forth in the drawings and specifications of the Jenkins patent?

A. It does.

Q. Is there anything, any hint, in the specifications or drawings of the Jenkins patent which would lead a skillful mechanic to construct such a faucet as the Soffe faucet?

A. There is none whatever.

Q. Is the principle—the double incline—in the Soffe faucet equivalent in any sense to the screw-follower H, shown and described in the specifications of the Jenkins faucet?

A. It is not.

Q. Are the differences between the Soffe faucet and the drawings and specifications of the Jenkins faucet, such, in your judgment, that a skillful mechanic would require the exercise of invention in getting up this Soffe faucet?

A. I consider it entirely a new invention.

Q. Is there anything in the drawings or specifications of the Jenkins patent to apprise or inform a mechanic of ordinary skill, who constructed, or was constructing, or proposed to construct a faucet similar to the Soffe faucet, that thereby he would infringe upon the Jenkins patent?

A. No.

Cross-examination by Mr. CLARKE:

Q. It is your opinion, then, as an expert, is it, that the valve and the contrivance for operating it in Defendant's Exhibit No. 2 has a greater resemblance to the valve and the contrivance for raising it shown and described in the Jenkins patent, than the valve and contrivance for operating it shown in Defendant's Exhibit No. 1 has?

A. I consider the contrivance for raising the valve in Exhibit No. 2 substantially the same as described in the Jenkins patent, namely,
84 the raising of the valve with a screw, whereas in Exhibit No. 1 the valve is raised by spurs riding up an inclined plane, which I do not consider a screw.

Q. Do you mean by all this that the valve and contrivance for operating it in Defendant's Exhibit No. 2 has a greater resemblance to the valve and contrivance for operating it of the Jenkins patent than has the valve or contrivance for operating it of Defendant's Exhibit No. 1?

A. I will say yes.

Q. In what part of Defendant's Ex. No. 2 is the valve stem of the Jenkins patent represented?

A. Well, the stem is represented by a nut.

Q. In what part of the Defendant's Ex. No. 2 is the T handle of the Jenkins patent represented?

A. In the pipe?

Q. In what part of Defendant's Ex. No. 2 is the delivery orifice of the Jenkins patent represented?

A. The discharge.

Q. Yes?

A. Also through the handle pipes.

Q. In what part of Defendant's Ex. No. 2 is the spring which presses the valve to its seat by a pressure vertical to the seat of the Jenkins patent represented?

A. The pressure of the spring is substantially the same.

Q. You then are prepared to say, as an expert, that the helical spring of the Jenkins patent and the volute spring of Defendant's Ex. No. 2 operate in the same manner in pressing the respective valves to their seats, are you?

A. They both have the same office to perform.

Q. Will you now please answer my question: if those two springs operate in the same manner?

A. The difference in the construction of the cock or faucet makes the spring operate in different positions, but I consider that they both do the same work.

Q. How long have you been in that business?

A. Directly in that line about eight years.

Q. Are you familiar with mechanical principles?

A. Thoroughly familiar with every movement of mechanism.

Q. I will ask you to compare the faucet, marked "Jenkins' faucet, 3d form," with the hydrant, marked "Defendant's Exhibit No. 3," and state the points of resemblance and dissimilarity in their construction and method of operation.

A. It is sufficient to say that I consider that there is no material difference except in the size and mode of fastening the handle.

Q. Give a description of one and then compare it with the other in detail in each part.

A. I will commence with the form of the cock, which has an inlet and outlet for water, the same as the hydrant; in the faucet, the valve presses to its seat in the same manner, and is forced upwards by the sectional screw, in the same manner as the hydrant; it is also provided with a spring for pushing the valve back to its seat, and checking the water, and in every manner is made the same as the hydrant, with the exception of the fastening of the screw on the top of the piston.

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A. In what way they correspond?

Q. Whether you find the screw-follower H in the Soffe faucet either actually or substantially?

A. In the Soffe patent I find no screw-follower. I find no diaphragm.

Q. Do you find any part in the Soffe faucet which substantially answers to the screw-follower H described in the Jenkins patent?

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83 ant's Ex. No. 2," and state wherein the same differs from the Jenkins patent, Ex. No. 3, as before, as to the screw-follower H, in combination with the valve in the self-closing faucet.

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A. The discharge.

Q. Yes?

A. Also through the handle pipes.

Q. In what part of Defendant's Ex. No. 2 is the spring which presses the valve to its seat by a pressure vertical to the seat of the Jenkins patent represented?

A. The pressure of the spring is substantially the same.

Q. You then are prepared to say, as an expert, that the helical spring of the Jenkins patent and the volute spring of Defendant's Ex. No. 2 operate in the same manner in pressing the respective valves to their seats, are you?

A. They both have the same office to perform.

Q. Will you now please answer my question: if those two springs operate in the same manner?

A. The difference in the construction of the cock or faucet makes the spring operate in different positions, but I consider that they both do the same work.

Q. One of them—the one in Ex. No. 2 operates by coiling and uncoiling, does it not?

A. Yes.

Q. Does the helical spring of either of the other exhibits in this case or of the Jenkins patent coil and uncoil as it goes through its motions, or are its coils simply compressed towards each other?

A. They are simply pressed, but that does not change the effect upon the valve.

85 Q. I have not asked you about the effect upon the valve. I have asked you whether those two springs operate in the same manner; that is to say whether the coiling and uncoiling of a spring is the same thing as pressing the coils towards each other?

A. Whether it is the same movement?

Q. Yes; whether it is the same movement?

A. It is not the same movement, but has the same effect.

Q. Now, one end of the spring in Ex. No. 2 is made fast to the stationary hollow post in the centre of the faucet, is it not?

(Defendants' counsel objects to the line of examination, on the ground that it is wholly immaterial to this issue whether the valve in the faucet, marked "Defendant's Ex. No. 2," is made a self-closing faucet by a spiral spring or not. The method by which it is made self-closing is entirely immaterial in this action. The claim which the defendants are alleged to infringe is the screw-follower H in combination with the valve in a self-closing faucet.

Plaintiff's counsel says that inasmuch as in every instance where the claim of the Jenkins patent has been pretended to be cited by the defendant's counsel the words "substantially as described" have been persistently omitted, and plaintiffs' counsel thinks it his duty at this point to call the attention of the court to the presence of those words in the claim—"substantially set forth.")

A. Yes.

Q. The other end is made fast to the hollow boss on the lid of what you have termed "the pipe handle," is it not?

A. Yes.

Q. The helical spring of the Jenkins patent and of the Soffe faucet bears at one end on the valve and at the other end against the cap of the faucet, does it not?

A. It does.

Q. And you still adhere to your opinion, do you, that the faucet which has a different sort of spring, bearing in a different way against different parts of the faucet, and having a different part as the actuating handle, bears a greater resemblance to the Jenkins patent than the Soffe faucet, which has a similar actuating handle, a similar spring bearing in a similar way, do you?

A. I do, because the main point is in the screw-follower which the Soffe faucet does not have, considering the spring immaterial to the patent, because it is contained in the combination.

86 Q. Will you tell me what a screw-follower, in your understanding, is?

A. I consider a screw-follower a nut or a section of a nut, which corresponds with the pitch and size of a thread, and must necessarily fit it.

Q. Then will you please tell me what is the difference between an inclined plane and a screw?

A. The difference between an inclined plane and a screw is that an inclined plane may be made straight or even convex, whereas a screw must be made in such a manner that it will go around, several times around the circumference of the shaft from which it is placed. An inclined plane, the surface being flat or convex, it cannot continue around the object on which it is placed without running to a point or running off.

Q. Then it is your opinion, is it, that nothing can be a screw that does not envelope a cylindrical body completely?

A. That is my opinion. A screw may be partially around the circumference and still have the same proportions that it would have if it went all the way round.

Q. A screw in such an instance would be somewhat difficult to distinguish from a uniform inclined plane, would it not?

A. Not at all.

Q. Why not?

A. Because a screw must naturally progress according to its own pitch in order to make a smooth movement, whereas, the cam or inclined plane may be first straight and convex, and again concave, and its motion forward will be smooth but uniform.

Q. Inasmuch as my question assumed that the inclined plane was of uniform pitch, will you be kind enough to answer what is the difference between an incline plane of uniform pitch partially surrounding a cylinder and a screw partially surrounding a cylinder?

A. I do not consider one side of a thread, as it is termed, a screw; I do not consider it a screw, but a cam; a screw is a thread which will also return the nut as well as driving it forward.

Q. As you understand it, a screw must be capable of giving positive motion in both directions, while an inclined plane or cam need only be capable of giving it in one direction?

A. It need only throw it in one direction, although sometimes a backward movement is caused by a cam, and even in some other direction than in the way in which it came.

Q. How is it about the screw?

87 A. With a screw the nut must return the same way as it went.

Q. That is, it must be capable of giving positive motion in both directions?

A. In both directions.

Q. As you seem to be very familiar with cams, I will ask you if it is not a very common thing in mechanics where you wish to get a return motion with an H cam, to hold the cam in to the edge by the pressure of a spring?

A. Yes, sir.

Q. And has not that been in practice for a long series of years prior to 1860?

A. I will answer that the use of a spring for returning a pin against the side of a cam has been used as long as I can remember; also, the use of a spring against a nut by keeping the nut tight upon a screw, has been used as long as I can remember.

F. W. G. COOK.

Subscribed and sworn to before me, April 21, 1877.

J. M. DEUEL,
Examiner.

LEONARD WASSUNG, a witness called on behalf of the defendant, being duly sworn, testifies as follows:

Examined by Mr. WELLS:

Q. Were you acquainted with Frederick H. Bartholomew?
A. I was.
Q. Were you in his employ?
A. I was.
Q. How long?
A. Very near twenty-three years.
Q. State when you entered his employ?
A. In 1849, in March.
Q. And you left when?
A. In 1856, I believe. I left there in 1856, and returned again in two years and a half. After I had finished my I came back. I left there for a short time.
Q. Examine (Defendant's Exhibit No. 3), the hydrant and state whether you have ever seen that hydrant before, or any exactly like it?
88 A. I cannot say as to this one here, but I have seen them like it, and helped to make them.
Q. Who made those hydrants?
A. The manufacturers?
Q. Yes.
A. F. H. Bartholomew.
Q. Were those hydrants sold for public use?
A. Yes, sir.
Q. During what period were they manufactured?
A. Well, from 1849; in 1849 when I came here until I left. That was in 1856, and I returned again.
Q. Was he still manufacturing when you returned?
A. Well, when an order would come in for a dozen we would make them. We didn't make for general use, but when an order would come in we always made them.
Q. Will you please compare the faucet marked "Jenkins Faucet, 3d Form," with the hydrant, and state the points of resemblance and dissimilarity in the mode of operation and construction.
A. I consider them both the same, on the same principle, only one with a spring on the top (the hydrant), and the other with a spring on the bottom (the faucet). That is all the difference that I can see; they are both on the same principle exactly; there is not a bit of difference.
Q. Examine the faucet marked "Defendant's Exhibits Nos. 4, 5, and 6," and state whether you have seen faucets like those before.
A. Yes, sir; I made them. I should not wonder but what I made that one (Defendant's Exhibit No. 4).
Q. Where did you make these faucets?
A. In Mr. F. H. Bartholomew's employ.
Q. In what year?

A. From 1852 to 1856; it might be a little earlier or later.

Q. And continued to make them how long?

A. Whenever we got an order.

Q. That is the form in which these faucets were sold?

A. Some were made that way (Defendant's Exhibit No. 6), and some this way (Defendant's Exhibit No. 5).

Q. Were they sold into public use?

A. Yes.

Q. Did you ever make any without orders?

A. I made eighteen at one time to fill orders. I guess I made that cock (Defendant's Exhibit No. 5).

Q. You notice the handle on that cock is new, is it not?

89 A. Yes, sir.

Q. Was the handle that was sold with that cock the same or different in form from the new handle now on it?

A. About the same thing.

Q. Examine the Jenkins Cock, 3d Form, and state whether Mr. Bartholomew made any self-closing faucets in which the valve was opened by the action of a screw cut upon the stem, and a thread tapped in the cap of the faucet.

A. Yes, sir; he did. But the screw was not as coarse as this. It was a round screw, not a square screw.

Q. At what time were those made; during what period?

A. About from 1852 to 1856, and after, I guess.

Q. Were those faucets self-closing?

A. Yes, sir.

Cross-examined by Mr. CLARKE:

Q. When do you remember last to have made any of these faucets at Mr. Bartholomew's?

A. Well, it was, I think, about the time that I left there, or before that. I guess I worked in the shop something like three years before he commenced to make them; something like that, about three years, I guess it was, or four years; and we made some that were put up at the corner of Broadway and Fourth street, I think, if I am not mistaken, for they sent me up there to repair them—Broadway and Fourth street, or Broadway and Waverley Place. It was somewhere there, anyhow.

Q. Then the last you remember about making any was about 1852?

A. Between 1852 and 1856. I think previous to my leaving.

Q. Do you know whether these faucets have been continually upon the market since then?

A. No, sir; not that I know of. I never heard anything of them until this here thing was brought up. I have seen these plain cocks, as we call them, or basin cocks. You have to take hold of the top and hold them to make the water run through them. I thought they were never made anywhere only by Mr. Bartholomew.

Q. Do you know when this faucet (Exhibit 6) was made?

A. That faucet there?

Q. Yes.

A. No, sir; I do not. The faucets that we made were worked on the same principle as that, but not like that; they were a Bib cock;

90 some were plain and some had a screw on them. This is a stop-cock.

Q. Do you remember or not whether the Bib faucet, as he made it there, had a notch on the top of the cap?

A. Yes, sir; he made it just like that, that Exhibit 5; he made them in every shape, form, and manner in which a cock can be made, I think.

Q. Do you know who put this faucet (Exhibit 5) in repair?

A. The way it is now, in that condition?

Q. Yes.

A. No, sir; I do not.

Q. When, after leaving Mr. Bartholomew in 1856, did you first see one of these cocks like Exhibits 4, 5, and 6?

A. After I left there?

Q. Yes.

A. I used to go up after I left there and visit the shop; they always had a big show there, and hed all sorts of cocks there; cocks that worked with a lever, and every way.

Q. Did you ever see them anywhere but in Mr. Bartholomew's shop after 1856?

A. As I stated, I went up to the corner of Broadway and Fourth street, or Waverley Place, up along that way somewhere, where they were put in—it was a lodging-house then—and they got out of repair, and they sent me up there to fix them.

Q. Who sent you to fix them?

A. Mr. Bartholomew.

Q. After you left Mr. Bartholomew, did you ever see any of these faucets like Exhibit 5, except in his shop, until this case came up?

A. Yes, sir; I did in his shop.

Q. Only there?

A. Only there; that is all; I might have seen them where I have been working in other shops, where they have been brought in to be repaired, but I cannot remember.

Q. Has not the notch in the top of the cap of that faucet been recently filed?

A. I don't think the notch in the top of this is as deep as what we needed; one part looks brighter than the other.

(Defendant's counsel admits that the notch has been filed in Defendant's Exhibit No. 5.)

Q. The faucet shown in Defendant's Exhibit No. 4 is so contrived that it can be set open and left open, is it not?

91 A. This one can be left open. (Exhibit 4.)

Q. No. 5 can be set open and left open, can it not?

A. Well, I don't suppose that is quite the way it ought te be; it ain't in repair; the spring is weak in that; that is an old faucet—an old valve; it is like an old clock, it will wear out, I should think, in course of time.

Q. Can it be set open and left open?

A. You have got it open.

Q. And have left it open, haven't I?

A. I suppose it is; I don't know.

Q. At what time in the course of your employment with Mr. Bartholomew were faucets like Exhibit No. 6 made, as you remember?

A. They were not made like that, but they were made on the same principle as this; they were Bib cocks; those that we made were Bib cocks; this is a stop-cock (Exhibit No. 6)—at what time?

Q. Yes.

A. About 1854, I guess; between 1852 and 1856, anyhow.

Q. How many of them do you know of having been made?

A. Well, that I cannot exactly say; our boss, he was no manufacturer of Bib cocks, but he made them whenever anybody wanted them; when any one would come in and wanted a dozen we would make them, or half a dozen, we would make them, just according to how the order was given; our principal business was water-closet valves and hydrants, but if anybody came in and wanted half a dozen, or a dozen, or fifty, he would make them.

Q. Do you know of anybody to whom Mr. Bartholomew ever sold a cock like Exhibit 6? If so, please give me his name.

A. I cannot recollect; I was a boy then; I was the shop-boy, and Mr. Morrison, he was the foreman; I cannot say exactly.

Q. Was this pattern (Exhibit No. 6) one of the kind that he had over the sink?

A. Yes, sir; not the same pattern, though, as those, but it worked the same way; but it was a Bib cock, not a stop-cock.

Redirect:

Q. What is the difference between a Bib cock and a stop-cock?

A. A Bib cock is meant for sinks, and a stop-cock makes a stopping in the water.

Q. They are different in the shape of the delivery-pipe?

A. One is straight and the other has got a crook in.

92 Q. Is there any other difference in them?

A. A stop-cock they use for stopping the supply of water in a house, and a Bib cock is put into sinks, wash-basins, &c.

Q. The discharge is open simply in a Bib cock?

A. One has got to be attached on both ends, and the other has only got to be attached on one end.

Q. Has Mr. Bartholomew made and sold these faucets, Exhibits 4, 5, and 6, which are shown here. When they were made could they be left open or would they close?

A. They would close; he sold those as self-closing faucets.

Recross:

Q. Are you sure that they were always made so that they could not be left open?

A. That is the way we delivered them from the shop.

Q. Will you swear that one of the recommendations made by Mr. Bartholomew for this faucet was not that it could be left open if desired?

A. Well, he could do it with these faucets, and he could do it with his hydrants; any hydrant that he ever made could be left open if he desired to do so.

Q. And was constructed for that purpose, wasn't it?

A. Well, no; it was not constructed for that purpose; it was constructed as a self-closing hydrant like this hydrant here; they could keep it open if they wanted to; they can drive a nail in here (illustrating), and put a piece of rope around it here and tie it down, and keep the rope over it, and keep it running all the time.

LEONARD WASSUNG.

Subscribed and sworn to this 21st day of April, A. D. 1877, before me.

J. M. DEUL,
Examiner.

HARKNESS BOYD, a witness called on behalf of the defendant, being duly sworn, testifies as follows:

Examined by Mr. WELLS.

Q. What is your business?
A. Plumber and gas-fitter.
Q. How long have you been in that business?
93 A. Thirty years.
Q. Were you acquainted with Frederick H. Bartholomew during his life-time?
A. I was.
Q. State if you have ever seen the hydrant, or a hydrant like the hydrant marked "Defendant's Exhibit No. 3."
A. I have.
Q. Will you state when and where?
A. I have put them in use.
Q. When and where?
A. Somewhere about the years 1849 and 1850.
Q. Can you remember where you put them in?
A. I can.
Q. Where?
A. I put two in Morton street; and I put eight or ten in Cannon, Lewis, and Goerck streets.
Q. Were these hydrants bought of Mr. Bartholomew?
A. They were.
Q. Were they bought by you individually?
A. They were not.
Q. Who were they bought by?
A. They were bought by George Fulton, my employer.

Cross-examination by Mr. CLARKE:

Q. Do you know anything about the persons in whose establishments these hydrants were put?
A. I do not, sir. They were put into tenement houses; in the yards of tenement houses rather. There was no water introduced into the houses at that time.
Q. Did you ever have occasion to see these after they were put in?
A. I did not, sir—well, yes; I think I did, sir; in regard to the pipe being frozen up was one instance.
Q. How long after they were put in?
A. I think it was the first winter after they were put in.
Q. Did you ever see one of them in operation?
A. I did, sir.
Q. Were they like these hydrants in all respects—the model hydrant?
A. Yes, except on the hydrants that I put in there was on the top a T handle that I used instead of a wheel.
Q. Do you remember whether the handle had to be held while the water was running?

94 A. It had, sir.

Q. What makes you remember that?

A. Well, because all Mr. Bartholomew's faucets—or not the faucets, but cocks, were self-operating; as soon as you let go the handle they close themselves. That is the reason we put them in.

Q. Have you any other reason for recollecting that particular thing about these hydrants?

A. Yes, sir; I was brought up close to Mr. Bartholomew's place, and used to be in and out there all the time. In regards to nearly all his patents he used to take me in and give me ideas about different things; and I have helped him to get up a good number of his patents.

Q. Why did you select hydrants for this work with hose nibs?

A. I didn't say there were hose nibs on.

Q. Did you not say they were like these hydrants in all respects?

A. In regards to the mode of opening and closing them; but in regards to the nozzle of the hydrant, I didn't say so.

Q. Then the nozzle of the hydrant was different, was it?

A. Sometimes the nozzle of the hydrant was in the shape of a dolphin's head, to hang a pail on.

Q. I don't want to know what was sometimes done on Mr. Bartholomew's hydrants, but I want to know about the hydrants that you testify you put in in various tenement houses in 1849 and 1850; I want to know about these hydrants that you put in; how the nozzles of them were made, if you have any certain recollection upon the subject?

A. I have, sir; they were made with a dolphin's head for the pail to hand on the nozzle.

Q. You are certain of that, are you?

A. To the best of my belief, sir.

Q. Are you certain of it?

A. I am.

Q. Now will you also tell me what the size of the nozzle was?

A. The size of the nozzle was about an inch and a quarter inside, or possibly an inch and a half.

Q. Where did you last see one of these hydrants?

A. I had two of them in my shop last year, old ones; had them there for seven or eight years.

Q. What did you do with them?

A. Split them up, sir; not these identical hydrants.

Q. When did you last see one of these identical hydrants?

95 A. I saw one of them here about a month or six weeks ago, or about two months ago.

Q. Where?

A. In this office.

Q. One of those that came out of one of the houses that you put them into?

A. No, sir; I don't know where it came out of; I have seen a similar hydrant here.

Q. When did you last see one of the hydrants that you put in the tenement houses in 1848 and 1849, as you have testified?

A. One of those identical hydrants I have not seen since that time, or the winter following; that would be po-sibly about the winter of 1851.

Q. Where did the hydrants come from that you split up last year?

A. Well, that I could not say, sir; they were in the shop possibly seven or eight years previous to being split up.

Q. Had they ever been in use anywhere?

A. They had been in use, and taken out.

Q. Whereabouts had they been in use?

A. Well, that I don't remember; they had been in the yards of some houses.

Q. Did those have dolphins' heads on them?

A. I think not; but they were turned up for the pail to hang on, in the shape of a fish's head; an iron head, but it was not a regular dolphin's head.

Q. Did they have hose nibs?

A. No, sir

Q. Most of the work that was done by Mr. Bartholomew in hydrants worked with a lever, did it not?

A. There was a portion of them did at a later date, but not in the first stages of his making them.

Q. Then do you remember when Mr. Bartholomew first began to make hydrants?

A. I don't know; I think it was previous to my coming to this country, sir.

Q. What time did you come to this country?

A. In 1847.

Q. Did not most of Mr. Bartholomew's work in hydrants in 1847 have a lever for the actuating handle?

A. Not at that time, sir.

Q. Are you sure of that?

A. I am, sir.

96 Q. About what time did the lever come into use?

(Defendants' counsel objects to any further interrogatories in reference to the lever as entirely immaterial to this transaction, no hydrant of Mr. Bartholomew's having a lever having been introduced into the action, nor as forming any part of any issue in the same.)

A. I could not say, sir; I should judge it may have been possible four or five years later than that period.

Q. Do you know whether any of these tenement houses where you put in these hydrants in 1848 and 1849 are now in existence as tenement houses?

A. I don't know, sir; they are either there or houses built in their stead; the way of introducing water now is entirely different from what it was then; they put them in the houses instead of in the yards.

Q. Have you examined any of these houses to see whether the hydrants you put in in 1848 and 1849 are still there?

A. I have not; it is not very likely they are there, at any rate.

Q. Were the hydrants which you split up last year, after keeping them on hand for seven years or so, in working order?

A. No, sir; just as they were when they came out; we threw them there as a matter of old lumber.

Q. Are you engaged at all in the manufacture of faucets?

A. I have been, sir.

Q. Do you make self-closing ones?

A. I do not, sir.

Q. Have you been in the habit, during the past seven or eight years, of using the self-closing faucets manufactured by the complainants pretty largely?

A. I have.

Q. Did you ever inform the complainants, or their agent in this city, concerning this peculiar Bartholomew hydrant?

A. I have not, sir; I have spoken to them of Mr. Soffe's cocks.

By Mr. WELLS:

Q. How long has Mr. Bartholomew been dead?

A. I think he has been dead about eight years, sir.

(It is agreed between the counsel for the complainant and the counsel for the defendant that the exhibits introduced by both parties, and
97 which have been marked for identification, are to be used in the hearing of the cause, but are not to be impounded.

HARKNESS BOYD.

Subscribed and sworn to before me this 21st day of April, 1877.

J. M. DEUEL, *Examiner.*

ALEXANDER WALDRON, a witness called on behalf of the defendant, being duly sworn, testifies as follows:

Q. What is your business?

A. One of the firm of Bartholomew & Co., formerly F. H. Bartholomew & Co.

Q. How long have you been in the manufacturing of faucets?

A. Twenty-five years.

Q. Were you acquainted with Frederick H. Bartholomew?

A. Yes.

Q. You were in his employ?

A. Yes, sir.

Q. How many years?

A. I went in 1851 or 1852.

Q. And have you been there ever since?

A. Ever since.

Q. Look at that hydrant, and state whether you have ever seen anything like it.

A. Yes, sir; I have.

Q. State when and where.

A. This was made by F. H. Bartholomew when I was in his employ. was his salesman at that time.

Q. Do you know whether the same was sold for public use?

A. They were sold.

Q. During how long a time?

A. Off and on for five or six years.

Q. Do you know anything about a hydrant of that kind having been exhibited by Mr. Bartholomew in the New York Crystal Palace?

(Objected to as leading.)

A. Yes, sir; in the New York Crystal Palace.

98 Q. Look at Defendant's Exhibits 4, 5, and 6, and state whether you have ever seen those faucets before.

A. I have, sir; I have seen faucets similar to these made by F. H. Bartholomew.

Q. During what time?

A. Well, from 1851 or 1852; along there up to this present time we have had more or less of them in the shop.

Q. By what name, if any, were these faucets known to the trade?

A. Self-closing faucets.

Q. Were those faucets sold for public use?

A. They were.

Cross-examined by Mr. CLARKE:

Q. Do you know where the hydrant Exhibit 3 came from?

A. It came from Bartholomew & Co.'s, 84 Marion street, our place of business.

Q. Where was it found?

A. It was found in the cellar of our shop, where we keep hydrants; we have no more like it.

Q. How long is it since any hydrants of this sort have been made?

A. Well, I guess it is 15 or 18 years.

Q. Do you remember how long it is since one of them was sold?

A. That I couldn't say without referring to our old books, which would take considerable time to do.

Q. When you say referring to your old books—how long ago were those books closed or given up?

A. We have them in our possession yet; the books are written full, and new books used; our ledger don't last a great while; we soon fill it up.

Q. Can you swear that any one of them has been sold within twelve years?

A. No; I think not.

Q. Can you swear that any one of these hydrants has been sold within fifteen years?

A. No, I think not; there might possibly have been some sold within fifteen years; I could not say positively.

Q. Can you give the name of any person who ever bought one of these hydrants?

A. Yes, sir; Harry McGuckin, in business in 6th avenue, between 52d and 53d street.

Q. When was that sale made?

99 A. I forget the date of that.

Q. In what business is Mr. McGuckin?

A. Plumber.

Q. Do you remember the year?

A. I do not.

Q. How many of them have you now on hand?

A. We have none on hand now.

Q. Do you know anything about the history of the three faucets, Exhibits 4, 5, and 6?

A. I do; Mr. Bartholomew made them and sold them.

Q. To whom did he sell those three faucets?

A. That I could not say, who he sold these three faucets to; he made and sold faucets of that description—self-closing faucets.

Q. Did you furnish Mr. Soffe with either of those faucets?

A. I did.

Q. Which one?

A. This one, number 5, and this one, number 4, and one similar to this, number 6; not this faucet, but one exactly like it.

Q. Do you know where that faucet, Exhibit 6, was made?

A. I do not; I think we have got a lot of these old faucets now in the shop—old stock; we never did anything with them; what I mean is, we have not sold them; we have them on hand.

Q. When did you become a member of the firm of Bartholomew & Co.?

A. In 1866.

Q. These faucets were on hand then?

A. Yes, sir; they were.

Q. Have you made any faucets since 1866 of the pattern shown in Exhibits 4, 5, and 6?

A. No; not that I recollect.

Q. Have you sold any such faucets that you remember?

A. Not that I recollect; we have sold quite a number of a different kind of self-acting faucet with an upright handle; when you pull in any direction the water will run; as soon as you let go of the handle it will stop.

Q. That is, with a cam lever?

A. Yes; an upright lever.

Q. The lever in that case pulls over toward the bib, does it not?

A. It pulls over in any direction, and it will run as long as you hold it; when you let go of it, it stops—what we call the self-closing faucet; we have sold a great many of them from time to time.

100 Q. Were you connected in business with Mr. Bartholomew in any way before 1866?

A. Yes, sir, I was; as salesman in his employ.

Q. Do you remember what time he ceased the manufacture of these faucets like Exhibits 4, 5, and 6?

A. Previous to 1866.

Q. You cannot say how long previous?

A. No, I could not; but I know he did not make any since 1866, since I have been connected with the firm.

Q. The reason that this sort of faucet was not manufactured by Mr. Bartholomew was because he preferred the lever handle, wasn't it?

A. There was more call for the lever handle than this kind—than the self-closing kind, the kind they hold on to.

Q. He preferred them, didn't he?

A. I don't know as he preferred them, but we had more sale for the other kind They are not so complicated to manufacture, easier manufactured, not so expensive to make.

Q. Have you ever sold any of the faucets manufactured by the complainants in the case?

A. No, sir; never.

Q. Do you know anybody who you can say ever purchased any faucets like Exhibits 4, 5, and 6?

A. Harkness Boyd purchased some of those self-closing faucets from Mr. Bartholomew; of which of these three kinds I don't know; he was a plumber.

Q. Do you know when he purchased them;

A. No, sir, I don't, without referring to our books; I can tell the month, day of the month, and the year by referring to our books.

Q. Did you furnish Mr. Soffe, at any time, with patterns for making any of these faucets like Exhibits 4, 5, and 6?

A. I never furnished him with patterns; I furnished him with those cocks as you see them on some of them.

Q. Do you know what has become of the patterns for making those cocks?

A. I think we have them yet; the patterns are in the shop at 84 Marion street.

Q. You don't know that you have?

101 A. No; I don't know positively, but I think we have them; we generally keep all our patterns; we don't destroy them.

ALEXANDER WALDRON.

Subscribed and sworn to before me the 21st day of April, 1877.

J. M. DEUEL, *Examiner.*

Circuit court of the United States, southern district of New York.

JOSEPH ZANE ET AL., COMPLAINANTS,
vs.
HENRY SOFFE, DEFENDANT.

SOUTHERN DISTRICT OF NEW YORK, *ss:*

I, J. M. Deuel, an examiner duly appointed by the circuit court of the United States for the southern district of New York, do hereby certify that the several witnesses named in the foregoing depositions appeared before me on the days therein specified, and each being by me duly sworn, gave the testimony therein contained; that said testimony was taken by a stenographer appointed by me for that purpose, and taken in the presence of the witnesses; that the same was reduced to writing, and severally subscribed by the witnesses.

I further certify that Henry P. Wells, esq., counsel for defendant, and Thomas W. Clarke, esq., counsel for complainants, were present at said examination.

J. M. DEUEL, *Examiner.*

102 *Letters patent.*

No. 148520.

The United States of America to all to whom these presents shall come:

Whereas Henry Soffe, of New York, New York, has presented to the Commissioner of Patents a petition praying for the grant of letters patent, for an alleged new and useful improvement in faucets, a description of which invention is contained in the specification of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law:

Now, therefore, these letters patent are to grant unto the said Henry Soffe, his he'rs or assigns, for the term of seventeen years from the tenth day of March, one thousand eight hundred and seventy-four, the exclusive right to make, use, and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the city of Washington, this tenth day of March, in the year of our Lord one thousand eight hundred and seventy-four, and of the Independence of the United States of America the ninety-eighth.

[L. S.]

B. R. COWEN,
Acting Secretary of the Interior.

Countersigned:
M. D. LEGGETT,
Commissioner of Patents.

(Here follows diagram marked "Page 102.")

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H. SOFFE,

Faucets.

Patented March 10, 1874.

No. 148520.

(Two diagrams of faucets—figures 1 and 2.)

Inventor HENRY SOFFE,
Per LEMUEL W. DEUEL, *Att'y.*

Witnesses:
CHAS. H. SMITH.
HAROLD SEUELL.

UNITED STATES PATENT OFFICE.

Henry Soffe, of New York, N. Y.

Improvement in faucets.

Specification forming part of letters patent No. 148520, dated March 10, 1874; application filed *E*ebruary 17, 1874.

To all whom it may concern:

Be it known that I, Henry Soffe, of the city and State New York, have invented an improvement in faucets, of which the following is a specification:

Self-closing faucets have been made with a valve pressed to its seat by a spring, and inclines have been used for opening the valve, such inclines being upon a swivel connected with the handle, as in letters patent No. 17604; or upon the outside of the cover, as in letters patent 142192.

My invention is made for simplifying the construction, lessening the cost, and for preventing wear upon the inclines, or the parts moving upon

them. At the same time the inclines are out of sight, and there is nothing to catch or injure the hands or clothing that may come in contact with the faucet, and the spindle is only subjected to the strain due to its revolution, the opening and closing forces being concentrated upon the valve itself.

In the drawing Figure 1 is a longitudinal vertical section of the improved faucet, and Figure 2 is a sectional plan of the line *x x*.

The valve-seat *a* is between the inlet pipe *b* and the discharge pipe or bib *c*, and at the bottom of the cylinder *d*, these parts being cast together. At the top of the cylinder *d* is the screw-cap *e*, with a packing or gland for the valve-stem *f*. The handle *g* is at the upper end of this
104 stem *f*, and the valve *i* at the lower end, and this valve *i* is, preferably, made with an elastic face. The spring *k* closes the valve against the pressure of the liquid, said spring being around the stem *f* and within the barrel *d*. The inclines *o o* are within the barrel or cylinder *d*, and adjacent to the valve-seat. They are, preferably, double, so as to extend up above the inner open end of the tube forming the bib, and at opposite sides of the valve *i* are projections or fingers *r*, that extend above the inclined surfaces, and their ends touch, or nearly touch, the inner walls of the cylinder *d*.

It will now be evident that the spring *k* retains the valve to its seat, and hold the same firmly against the pressure of the water, and when the valve and stem are turned by the handle *g* the fingers *r* run up the inclines *o*, lifting the valve against the pressure of the spring, and when the handle is released the valve closes by the action of the spring *k*, so that the faucet is self-closing.

If the length of the cylinder *d* or spring *k* is such that the fingers *r* can be turned around until they reach a flat place that is formed at the top of the inclines *o*, then the valve can be left open after the parts have been turned around to this point, which is a convenience in faucets for wash-tubs, &c.

By this construction the inclines and fingers are lubricated by the liquid passing through the cock; these parts are out of sight and the faucet can be made to resemble any ordinary screw or self-closing faucet; and the power of the spring to close the valve, and of the inclines to lift the valve, being applied to the valve itself, the valve-stem only requires to be sufficiently large to resist the torsion.

I am aware that inclines have been employed beneath the faucet-cap to push the down from its seat, the valve being at the opposite side of the seat to the cap; but this arrangement is costly, and difficult to construct.

I claim as my invention—

The faucet-cylinder *d*, with the seat *a* between the inlet pipe *b* and pipe *c*, and made with the double inclines *o o* within the cylinder and adjacent to the valve-seat, in combination with the valve *i* and the fingers *r* that project at the sides of the valve, the stem *f*, cap *e*, and spring *k*, the parts being arranged and operating as set forth.

Signed by me this 13th day of February, A. D. 1874.

HENRY SOFFE.

Witnesses:

GEO. T. PINCKNEY.

CHAS. H. SMITH.

105 At a stated term of the circuit court of the United States of America for the southern district of New York, in the second circuit, held at the United States court-rooms, in the city of New York, on Friday, the thirtieth day of January, in the year of our Lord one thousand eight hundred and eighty.

Present, the honorable Hoyt H. Wheeler, judge.

JOSEPH ZANE & AL.
vs.
HENRY SOFFE.

The above cause coming on for final hearing upon pleadings and proofs Mr. Thomas W. Clarke is heard in behalf of complainant.

Further argument adjourned to the 31st inst.

106 At a stated term of the circuit court of the United States of America, for the southern district of New York, in the second circuit, held at the United States court-rooms, in the city of New York, on Saturday, the thirty-first day of January, in the year of our Lord one thousand eight hundred and eighty.

Present, the honorable Hoyt H. Wheeler, judge.

JOSEPH ZANE & AL.
vs.
HENRY SOFFE.

The argument in the above cause being resumed, Mr. Clarke concludes his argument in behalf of complainant.

Mr. Henry P. Wells is heard in behalf of the defendant.

Cur. adv. vult.

107 Circuit court of the United States, southern district of New York.
October term, 1879.

JOSEPH ZANE, FRANCIS ROACH
vs.
HENRY SOFFE.
In equity.

This suit is brought upon letters patent No. 48407, dated June 27th, 1865, and issued to Nathaniel Jenkins, for an improvement in self-closing faucets, which is now owned by the orators. The validity of the patent, and infringement of it, if valid, are both denied. The patent has been tried in Zane et al. vs. D'Este et al., in the district of Massachusetts, and in Zane et al. vs. Peck et al., in the district of Connecticut, and sustained in both cases. There is evidence in this case of self-closing faucets made and sold by Frederick H. Bartholomew at New York before the patent, and, so far as appears, before the invention, which were not shown in either of those cases, and knowledge of which has not been pleaded in this case. The evidence as to those most material has been taken without objection; and the counsel for the defendant argues that, being so taken, it

108 should be considered as if the knowledge it shows had been pleaded. If showing that knowledge as an anticipation was the only purpose for which the evidence could be received, there would be

force to that argument; but the evidence was clearly admissible for the purpose of showing what there was in existence at the time of the invention and patent, in the light of which to construe the patent, and as it could not be excluded if objected to, there was no waiver of the right to have its use restricted to the purpose for which it was admissible by not objecting to it. There is nothing in the case proper to be considered for the purpose of showing want of novelty that can defeat the patent for what it properly covers, in view of these pre-existing things.

The evidence shows—and so far it is not seriously questioned—that faucets with valves which were opened by being pulled away from their seats against springs, and which would be closed by the springs when the force used to open them was withdrawn were well known. Sometimes the valves were lifted from their seats by stems having
109 projections on the upper ends working against steep inclines, as cams. In the orators, faucet the valve is pushed downward from its seat, against a spring, by a steep, quick-threaded screw, turned by hand, with a swivel to prevent turning the valve with the screw, which lets the valve back when the screw is released. The patent is, in one claim, for the screw as a follower, in combination with the valve; in the other for the combination of the screw, follower, swivel, valve, and spring. The patent is good for a faucet in which the valve is opened and closed in that manner. In the faucet of the defendants the valve is lifted against a spring by a stem with projections near the valve, working against inclines inside the shell of the faucet. The counsel for the orators argues that these projections and inclines are the equivalent of a screw, and that the arrangement infringes the first claim of their patent. The screw would work both ways, pull and push, or either. The projections and inclines will only pull, as arranged by the defendants. They are not the equivalent of the screw for pushing the valves open, as the orators make use of it and as their patent covers it. The defendants do not use a swivel
110 at all. They do not make use of the combination of parts mentioned in either claim, nor of what is the equivalent of the parts for the same purposes. The same thing that distinguishes the orators' faucet from some of the prior devices of Bartholomew distinguishes the defendant's faucet from theirs. No question of infringement was made in Zane et al. vs. Peck et al., so far as appears from the opinion of the court by Shipman, J.; and from what is said there about Zane et al. vs. D'Este et al., it is probabie that none was made there. Those cases therefore furnish no guide as to the question of infringement here. The patent is apparently valid for the particular improvements which Jenkins invented, but the defendants do not infringe it.

Let there be a decree dismissing the orator' bill of complaint with costs.

(S'g'd) HOYT H. WHEELER.

111 (Indorsed:) U. S. C. C., S. D. N. Y. In equity. Zane v. Soffe. Copy. Opinion. Wheeler, J. Original. Filed Mar. 9, 1880.

112 At a stated term of the circuit court of the United States of America for the southern district of New York, in the seconed circuit, held at the United States court-house, in the city of New York, on the 25th day of March, in the year of our Lord one thousand eight hundred and eighty.

Present, honorable Hoyt H. Wheeler, district judge.

JOSEPH ZANE & FRANCIS ROACH
vs.
HENRY SOFFE. } In equity.

This cause having come on to be heard upon the bill of complaint herein, the answer thereto of the defendant, Henry Soffe, the replication
113 of the complainants to such answer, and the proofs, oral, documentary, and written, taken and filed in said cause, and the said cause having been argued by counsel for the respective parties:

Now, therefore, on consideration thereof it is ordered, adjudged, and decreed, and this court doth hereby order, adjudged, and decree, as follows, viz:

That the defendant does not infringe letters patent of the United States No. 48407, for an "improvement in self-closing cocks," granted on the 27th day of June, A. D. 1865, to Nathaniel Jenkins, of Boston, and which by legal assignment became the property of the complainants herein before the commencement of this action.

And that the complainants' said bill of complaint be, and the same is hereby, dismissed with costs, charges, and disbursements to defendant, to be taxed.

HOYT H. WHEELER.

114 We hereby consent the within decree be entered as of March 25th, 1880.

DUELL, WELLS & DUELL,
For Defendant.
THOS. W. CLARKE,
For Compl'ts.

Ordered accordingly.
Ap'l 28, 1880.

SAM'L BLATCHFORD.

(Endorsed:) U. S. circuit court for the southern dist. of New York, Joseph Zane and Francis Roach vs. Henry Soffe. Decree dismissing bill of complaint. Duell, Wells & Duell, def'ts sol'rs, 219 Broadway, New York City. Filed this 28th day of April, 1880, nunc pro tunc as of March 25th, 1880. John I. Davenport, clerk.

115 Circuit court of the United States, southern district of New York.

JOSEPH ZANE ET AL.
vs.
HENRY SOFFE. }

In the above-entitled cause the plaintiff claims an appeal, and hereby gives notice thereof to the counsel for the defendant.

THOS. W. CLARKE,
Sol'r & of Counsel.

(Endorsed:) U. S. circuit court. Filed Mar. 24, 1880. John I. Davenport, clerk.

116 United States circuit court, southern district of New York.

JOSEPH ZANE ET AL.
vs.
SOFFE.

Stipulation.

It is hereby stipulated and agreed by and between the parties to the above-entitled cause that the exhibits already introduced in evidence by the respective parties may remain in possession of the clerk of said circuit court until they shall be needed at the hearing upon appeal before the Supreme Court at Washington, or until otherwise stipulated by the parties hereto.

THOS. W. CLARKE,
For Complainants.
DUELL, WELLS & DUELL,
For Defendants.

117 (Endorsed:) U. S. C. C., S. D. N. Y. Zane et al. vs. Soffe. Stipulation. U. S. circuit court. Filed Sept. 10, 1880. John I. Davenport, clerk.

118 Circuit court of the United States, southern district of New York.

JOSEPH ZANE ET AL.
vs.
HENRY SOFFE.

Petition of appeal.

To the honorable the judges of the United States sitting in equity within and for the southern district of New York:

Respectfully represent Joseph Zane and Francis Roach, complainants in the above-entitled cause, that in the decision of the above-entitled cause, rendered by his honor Judge Wheeler, there is manifest error, and that the decision should have been for the complainants and not for the defendant; wherefore your petitioners claim that the said decision should be reversed, and petition to be allowed to appeal therefrom to the
119 Supreme Court of the United States.

By their sol'r, THOS W. CLARKE.

The foregoing appeal is allowed.
April 28, 1880.

SAM'L BLATCHFORD.

(Endorsed:)
Due and timely service of a copy of the within petition is hereby admitted.
N. Y., Ap'l 29th, 1880.

DUELL, WELLS & DUELL,
For Defendant.

U. S. circuit court. Filed Mar. 24, 1880. John I. Davenport, clerk.

120 *Bond for damages and costs.*

Circuit court of the United States of America for the southern district of New York, in the second circuit.

JOSEPH ZANE & FRANCIS ROACH
vs.
HENRY SOFFE.

Know all men by these presents that we, Joseph Zane & Francis Roach, of Boston, in the State of Massachusetts, as principals, and Fred. Adee, of Brooklyn, in the State of New York, and David Adee, of said Brooklyn, are held and firmly bound unto the above-named Henry Soffe in the sum of five hundred dollars, to be paid to the said Henry Soffe, for the payment of which well and truly to be made we bind ourselves, and each of us, our, and each of our heirs, executors, and administrators, jointly and severally, firmly by these presents. Sealed with our seals, and dated the twenty-sixth day of March, in the year of our Lord one thousand eight hundred and eighty.

Whereas the above-named Joseph Zane & Francis Roach have prosecuted an appeal to the Supreme Court of the United States to reverse the decree rendered in the above-entitled suit by the judge of the circuit court of the United States for the southern district of New York:

Now, therefore, the condition of this obligation is such that if the above-named Zane & Roach shall prosecute said appeal to effect, and answer all damages and costs if they shall fail to make said appeal good, then this obligation shall be void; otherwise the same shall be and remain in full force and virtue.

JOSEPH ZANE. [L. S.]
FRANCIS ROACH. [L. S.]
FRED. ADEE. [L. S.]
DAVID ADEE. [L. S.]

Sealed and delivered, and taken and acknowledged, this 20th day of March, 1880, before me.

J. M. DEUEL,
U. S. Com'r.

121 UNITED STATES OF AMERICA,
Southern District of New York, ss:

Fred. Adee and David Adee, of Brooklyn, New York, being duly sworn, depose and say each for himself that he is worth the sum of five hundred dollars over and above all his just debts and liabilities.

FRED. ADEE.
DAVID ADEE.

Sworn to this twenty-sixth day of March, A. D. 1880, before me.

J. M. DEUEL,
U. S. Com'r.

The foregoing bond is approved Ap'l 28, 1880.

SAM'L BLATCHFORD.

(Indorsed:) U. S. circuit court. Joseph Zane & al. vs. Henry Soffe. Bond for damages and costs on . U. S. circuit court. Filed Ap'l 28, 1880. John I. Davenport, clerk.

122 Supreme Court of the United States.

JOSEPH ZANE & FRANCIS ROACH
vs.
HENRY SOFFE.

To Henry Soffe, the above-named defendant:

Whereas Joseph Zane & Francis Roach has appealed to the Supreme Court of the United States from a decree lately rendered in the circuit court of the United States for the southern district of New York, second circuit, made in favor of you, the said Henry Soffe, in a suit pending in said circuit court, wherein the said Joseph Zane and Francis Roach were plaintiffs, and you, the said Henry Soffe, were defendant, and has filed the security required by law, you are therefore hereby cited to appear
123 before the Supreme Court, at the city of Washington, on the second Monday of October, A. D. 1880, to do and receive what may appertain to justice to be done in the premises.

Given under my hand at the city of New York, in the southern district of New York, in the second circuit, on the 28th day of April, in the year of our Lord one thousand eight hundred and eighty.

SAM'L BLATCHFORD,
Circuit Judge.

(Endorsed:) U. S. Supreme Court. Joseph Zane & al. vs. Henry Soffe. Due and timely service of a copy of the within citation is hereby admitted.

N. Y., Ap'l 29, 1880.

DUELL, WELLS & DUELL,
For Defendant.

Filed Ap'l 29, 1880.

124 UNITED STATES OF AMERICA,
Southern District of New York, ss:

I, John I. Davenport, clerk of the circuit court of the United States of America for the southern district of New York, in the second circuit, do hereby certify that the foregoing pages, numbered from one to one hundred & twenty-three, inclusive, contain a true and complete transcript of the record and proceedings had in said court in the case of Joseph Zane & Francis Roach against Henry Soffe as the same remain of record and on file in said office.

In testimony whereof I have caused the seal of the said court to be hereunto affixed at the city of New York, in the southern district of New York, in the second circuit, this 28th day of September, in the year of our Lord one thousand eight hundred and eighty, and of the Independence of the said United States the one hundred and fifth.

[SEAL.] JOHN I. DAVENPORT, *Clerk.*

(Indorsement on cover:) No. 70. Joseph Zane and Francis Roach, appellants, vs. Henry Soffe. S. New York C. C. U. S. Filed 8th October, 1880.

110-200

FILED
OCT 22 1883
JOHN D. McKENNEY, Clerk.

SUPREME COURT OF THE UNITED STATES.

No. 70.

JOSEPH ZANE AND FRANCIS ROACH, APPELLANTS,

v.

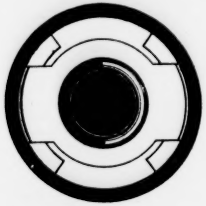
HENRY SOFFE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

BRIEF FOR APPELLANTS.

THOS: WM: CLARKE,
of Counsel.

FIG. 2



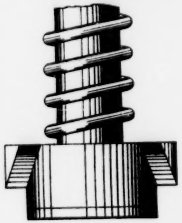


FIG. 3

SOFFE FAUCET.

DEEENDANTS EXHIBIT Nº 1.

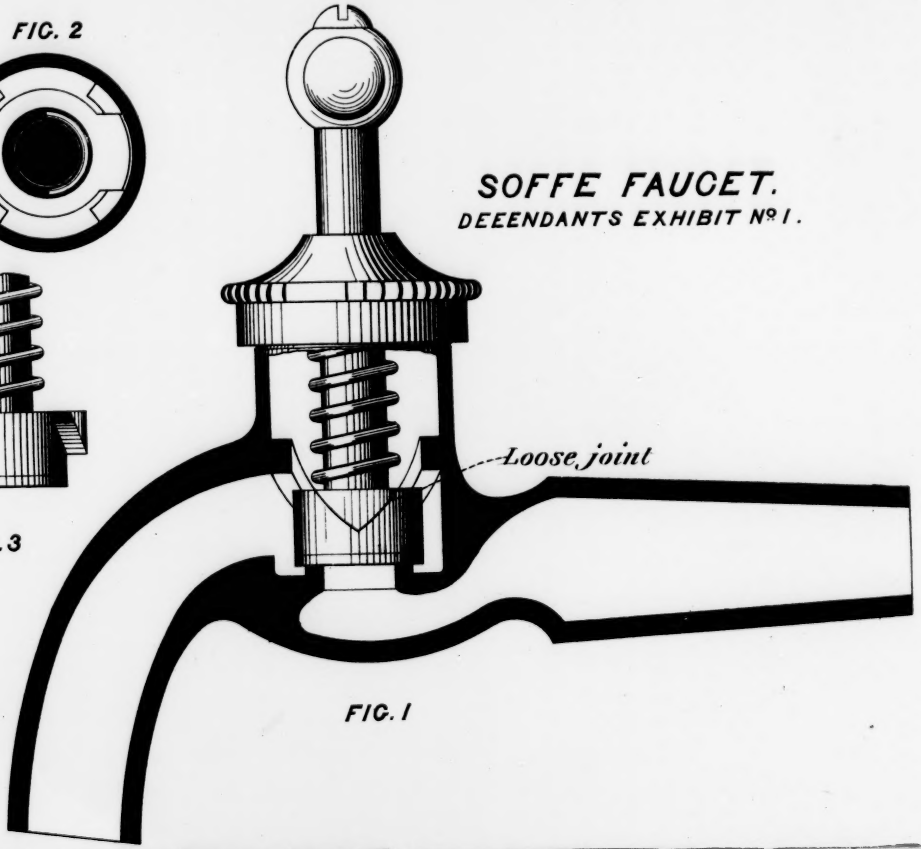


FIG. 1

FIG. 2

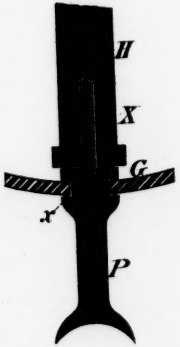
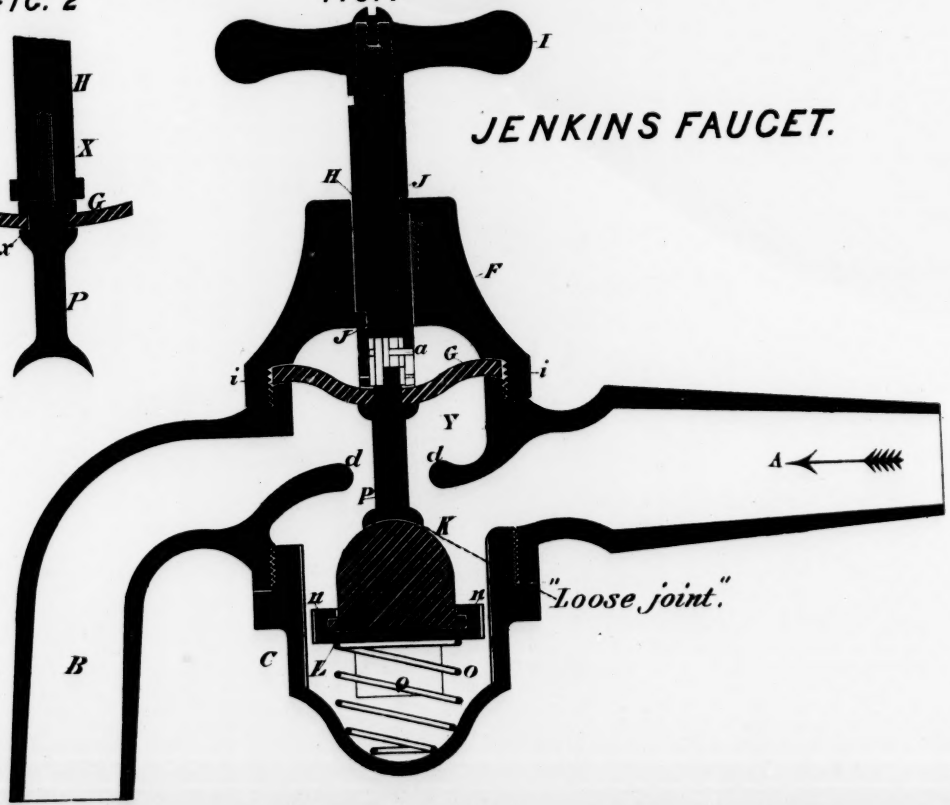


FIG. 1

JENKINS FAUCET.



Supreme Court of the United States.

No. 70.

JOSEPH ZANE AND FRANCIS ROACH, Appellants,

v.

HENRY SOFFE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

STATEMENT OF PLEADINGS AND PROCEEDINGS.

This was a bill in equity, filed January 23, 1877, on the Jenkins patent of June 22, 1865, for self-closing cocks.

The answer, filed February 16, 1877, denied the invention of Jenkins and the validity of the Jenkins patent; averred ignorance of the assignment; denied public respect for complainants' rights; averred universal denial and resistance of them; averred that complainants well knew that they had no valuable rights under the Letters Patent; averred (without specifying names of persons having knowledge) prior public and general use of substantial and material parts of the contrivance in New York and Brooklyn, and dated this prior use at least fifteen years before the date of the Jenkins invention.

It sets up the Bartholemew patent of August 12, 1846, for a lever hydrant as anticipation, and averred that all the essential parts of the Jenkins faucet were described in this Bartholemew patent.

It hypothetically alleged that previous suits had been insufficiently defended, or had resulted in consent decisions. It denied infringement in two forms of words; set up a patent obtained by defendant on March 10, 1874; alleged that the faucets made by him were according to the specifications of his patent of 1874, and denied that the invention was similar or a copy of the Jenkins patent.

The replication was filed March 3, 1877. Evidence was taken between March 8, 1877, and May 11, 1879, and the cause brought to hearing before Judge Wheeler on January 30–31, 1880. An opinion dismissing the bill was filed March 9, 1880.

The decree in the case was entered April 20, 1880, as of March 25, *nunc pro tunc.*

An appeal was allowed on April 28.

ISSUES TENDERED ON WHICH NO CONTROVERSY WAS HAD.

No contest was made on title. The assignments are printed on pages 14–16.

No evidence was offered by defendant on the averment of disrespect and disregard of the patent, nor on that of the complainants' knowledge or suspicion of no cause of action.

No pretence in proof was made that the other suits were collusive or badly defended.

It was not pretended that the Bartholomew Hydrant patent of 1846 described all the essential parts and construction of the Jenkins faucet.

ISSUES TENDERED IN WHICH NO EVIDENCE COULD BE TAKEN.

The denial in the answer of the invention by Jenkins was not supported by the statutory list of persons and residences of persons who had prior knowledge.

Rev. Stats. § 4920.

The allegation of public and general use in New York and Brooklyn, fifteen years before the Jenkins invention, was not supported by such a statutory list.

Hence evidence *in pais* to avoid this patent by prior knowledge or use of the substantive thing described in it, cannot be considered by the Court except to reject it.

THE CONTESTED ISSUE.

The only remaining issue tendered by the answer is that of infringement.

To this all the evidence must apply. To limit the scope of the patent, any testimony of prior structures is admissible; but if this shows an anticipation it will have no weight unless pleaded.

American Saddle Co. v. *Hogg*, 1 Holmes, 133, 135;

Citing *Vance* v. *Campbell*, 1 Black, 427,

And *Howe* v. *Williams*, 3 Fish. 421.

nection for application of power to effect axial movement in one direction only, the reverse axial movement being produced from another source of power.

(*See diagrams where the loose joint is marked.*)

The various forms of faucet made under Jenkins' patent are shown opposite.

Infringed Claim of Jenkins Patent and its Construction.

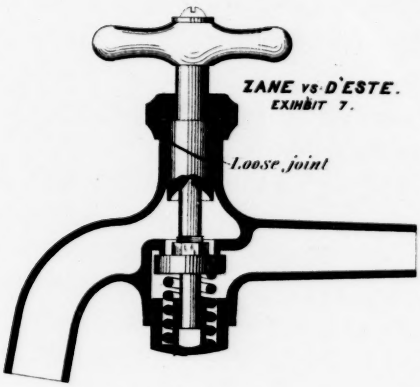
We contend that the first claim of the Jenkins patent is infringed by the "Soffe faucet" made and sold by defendant, and by its duplicate, "Defendant's Exhibit No. 1" (Record, pp. 7, 37).

The first Jenkins patent claim reads, "The screw-follower H in combination with the valve of a self-closing faucet, substantially as set forth and for the purpose described." (*See Patent Office drawing, p. 14, and reduced duplicate opposite; Record, p.* 13.)

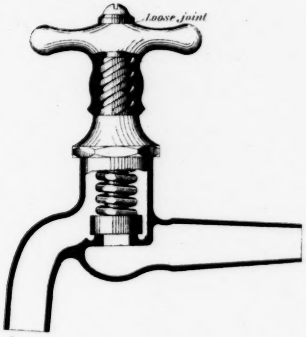
The Jenkins patent describes this screw-follower as having coarse threads so inclined that a partial rotation will entirely open the valve, while the pressure of the spring O and the water under the valve will overcome the friction of the screw-follower, will be sufficient to rotate said follower, and throw it up, and thereby close the faucet, thus making a self-closing faucet.

As an additional part of the invention, the lower end of the screw-follower is described as joined by a vertical joint to an extension called a swivel, P, and the combination of four elements, viz., screw-follower,

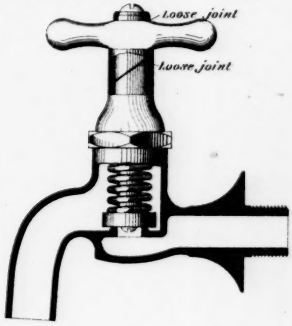
ZANE vs D'ESTE.
EXHIBIT 7.



JENKIN'S FAUCET, SCREW NECK.



JENKINS FAUCET, 3d FORM.



swivel, valve and spring, is the subject of the second claim of the patent. (See *Appendix*, pp. 11, 29, 35, 42, for construction.)

The bottom of the swivel P being the working point of the screw-follower, it is to rest on the top of valve K, making a contact connection transmitting power in one direction only.

This first claim of the patent then is for a peculiar combination of three elements, — a screw follower, a valve, and a spring to close the valve, — in which combination the novelty is that the screw can deliver its motion to the valve in the removing direction only.

It is not infringed by every combination of these three elements.

If the combination be so made that the screw can do any of the work of seating the valve, if the power of the screw can be added to that of the spring, it is not the Jenkins invention, and is older than the Jenkins invention. (*Record*, p. 10. Int. 4.)

The work of the spring must be absolutely independent of the screw, and opposite to it, to be the spring of the Jenkins combination.

The work of the screw must be absolutely independent of the spring, and opposite to it, to be the screw-follower of the Jenkins combination. (See *Appendix*, p. 35.)

And they must be cut off from each other's aid and made into independent opposing forces, by having an *open joint* between the valve and the handle, so as to work in one direction only, to form the Jenkins combination.

Jenkins provided for this in two ways: he prescribed that the lower extension of the follower or swivel P should *rest on* the valve, *not* be *attached* to it; and also, in the form shown in fig. 2 of his drawing, he made a mere contact connection between the follower and its extension, the swivel.

The importance of this feature of the organization is great.

In the combination in which the screw works only one way (as a follower), the manufacturer controls the wear and tear of the valve after it leaves his shop.

No power applied to the handle can add to or take from the closing power of the valve of the faucet, inherent in its organization and application. If it leaks too soon, the man who made it or applied it is responsible, not the user, for the user is detached by the open joint from abusing the valve of this faucet. So that the peculiar combination in the claim consists of the three elements:

(1) A screw-follower, the rotation of which transmits a desired motion in one direction only to the valve; (2) the valve; (3) a spring acting in opposition to the thrust of the screw-follower;

Which three elements, by the definition of "screw-follower" above given, are combined by contact connection, in the removing direction only, by the "open joint."

In other words, the mechanism is so contrived, by the introduction of the "open joint," that the working parts are three in number to open the faucet, screw-follower, valve and spring; and two only in number

to close it, valve and spring. The key winds up the spring, but cannot unwind it.

Infringements of the Jenkins Patent; Litigation on the Jenkins Patent; Construction in Other Cases of the Jenkins Patent.

There have been, including this, four cases on the Jenkins patent which went to final hearing on pleadings and proofs: beside one contempt motion, one hearing on accounting, and one other case which was consolidated.

All the opinions rendered except this are printed as an appendix to this brief.

Zane v. *D'Este*, against the Bate faucet was begun June 24, 1874. Answer was filed denying infringement, setting up as anticipations, among other things, the Coffin patent of June 16, 1857, No. 17,604, and the English patent of Cadet of November 3, 1856, No. 2580, and also as independent invention, the Bate patent, August 16, 1873, No. 142,192. The case was heard by Judge Shepley at May term, 1875, and decree entered for complainants November 29, 1876, that the Jenkins patent was valid, and that the "Bate faucet" identified in this case (p. 11) infringed it.

A rescript giving in brief the findings of the Court on the contention before it, was filed, and is in the appendix (p. 27).

A petition for rehearing was filed, and after the decision in the first Peck case, rendered August 11, 1877, remained dormant till July, 1883, when it was heard by Judge Lowell. (*Appendix*, p. 45.)

Before the Massachusetts case was determined, the Massachusetts defendants licensed Peck Brothers & Co., a Connecticut corporation, to manufacture the "Bate faucet," and suit was brought against it. Four new references to avoid the patent were set up, but, of course, privity with the former defendants prevented a contest on infringement unless the new evidence should modify the construction of the Jenkins patent, or show that it was void.

U.S. & Foreign Salamander Felting Co. v. *Asbestos Felting Co.*, 10 Off. Gaz. 828.

Judge SHIPMAN's opinion is in the appendix (p. 28).

This first Bate faucet of the Massachusetts and 1877 Connecticut case had a swivel connection between the valve-stem and the handle, had a crown snail on the neck, a rotating handle with arms that climbed the spiral inclines of the crown snail when the handle was turned, and the open joints were at the top of the valve-stem and between the crown snail and the rotating arms.

Peck Brothers & Co. then pinned the valve-stem fast to the handle, and thus eliminated the swivel and the open joint at the top of the stem, leaving only one open joint in the organization, between the crown snail and the handle arms. We claimed this faucet to infringe our first claim, and its manufacture to be a contempt, and moved an attachment. The question of infringement was then strongly contested on this new construction, and the Court directed its litigation in a new action.

This opinion also appears in the appendix (p. 32).

We then brought a new suit against Peck Brothers & Co. on the new infringement, in which the defendants set up this very Bartholomew evidence as avoiding the Jenkins patent, and after full hearing on pleadings and proofs the complainants got another decree from Judge SHIPMAN, June 25, 1881. His opinion appears in the appendix (p. 33).

On the coming in of the master's report on accounting, another hearing was had on exceptions, the construction of the patent was again upheld after deliberation, and the report confirmed in still another opinion, 1882, which also appears in the appendix (p. 41).

THE UNIFORM CONSTRUCTION OF THE JENKINS PATENT IN MASSACHUSETTS AND CONNECTICUT.

From these opinions it appears that, *dehors* the Bartholomew evidence, and upon the state of the art disclosed by prior publications and patents alone, the Jenkins patent has only been sustained from the first, upon the ground that it describes and claims as the actuating mechanism of a self-closing faucet, a screw-follower, or twisting climbing stem, which communicates motion in one way only, to remove the valve from its seat, instead of communicating motion in two ways, to remove it from and force it to its seat.

This was the well-known construction of the Jenkins patent when defendants filed their answer (*Record*, p. 5, ¶ 3), for it is this organization of faucet and hydrant, and this combination of parts, that

defendant alleges was in public and general use in New York and Brooklyn at least fifteen years before 1865; viz., as early as 1850 (p. 5).

And to invalidate the Jenkins patent as thus construed, and to throw open and make public the organization of the faucet it was intended to cover and protect, the Bartholomew evidence was introduced in this case, as in the Peck case.

As Judge SHIPMAN said in the later *Zane* v. *Peck* (*post*, p. 37), concerning the so-called "Bartholomew bib-cock," with a stem movement like that of the stop-cock, "Defendants' Exhibit 6" in this case, both made by Morrison, each for the purpose of the case in which introduced, "If it is a reproduction, the Jenkins patent was anticipated between 1852 and 1856."

Because no one can doubt that a screw, which is cut off by an open joint in the line of its axis from thrusting in both directions, has one side of its thread annulled; and whether the side of the nut, against which the annulled side of the thread slides, be present or be cut away, makes no difference. If present, it is always idle. If absent, all the working parts are left.

Jenkins shows the open joint twice in the line of the valve-stem, once at the surface of the valve, again in fig. 2 half way up the stem.

It cannot be argued that the Jenkins open joint is absent if put in a different part of the stem, or if the mechanism be turned over; and yet this is what is done, if cams are substituted for threads, and the faucet is made a compression cock acting against the

water, instead of a compression cock acting with the water.

THE COURT BELOW WAS IN ERROR AS FIRST ABOVE ASSIGNED.

It has been shown that the only tenable construction of the Jenkins patent, and the only one ever held by any court, is that the three elements, screw, valve and spring, should be so combined that "the screw was to do nothing in forcing the valve to its seat, the spring was to do nothing in forcing the valve from its seat," and the working combination should have three elements in one direction and only two in the other.

Hence the statement (*Record*, p. 68) of the opinion below, "The screw would work both ways, push and pull, or either," is an error, which has propagated itself throughout the opinion.

THE COURT BELOW WAS IN ERROR AS THIRDLY ASSIGNED ABOVE.

Clearly, the cams of "Defendants' Exhibit No. 6," and, so far as they are lifting cams, of "Defendants' Exhibits 4 and 5," are the operative parts of a screw driving in one direction only, and if the Bartholomew evidence is admissible and true, Judge SHIPMAN is right, and Judge WHEELER is wrong. If "Exhibit 6" is a reproduction of Bartholomew's work, the Jenkins patent would be invalid if Bartholomew's work was properly pleaded.

But it was not properly pleaded to be used to avoid a patent, and hence, as it goes too far, it is to be rejected altogether.

THE WORK ACTUALLY MADE BY BARTHOLOMEW WAS NOT SELF-CLOSING.

"Exhibit 6" was not made by Bartholomew before 1865, but was made by Morrison early in 1877 (*Record*, p. 49). Bartholomew did not make cocks of that shape of body (*Record*, pp. 55, 56). He made bib-cocks like "Exhibits 4 and 5."

The patterns of Bartholomew's work are preserved (*Record*, p. 64), but they are not in evidence. Waldron says he gave Soffe three Bartholomew faucets, "Exhibit 4," "Exhibit 5," and one other which his recollection tells him was "exactly" like "Exhibit 6," and which Soffe produces as "Waldron faucet" (*Record*, pp. 63, 27).

Neither of the three Bartholomew faucets, "Exhibit 4," "Exhibit 5" or "Waldron faucet," is a "*self-closing faucet*" in the sense in which the Jenkins or Soffe faucet pursued is a self-closing faucet. Each has its inclines so cut that it may be set open and left open without introducing into its organization anything extraneous.

Wassung says the Bartholomew faucets could be set open and left open (*Record*, p. 57). He says they were on the same principle as "Exhibit 6," but *not like* it (*Record*, p. 55). He says Bartholomew was not a manufacturer of bib-cocks, he only made them to orders. He ceased making in 1856 or a little later.

Waldron calls them old stock, on hand since 1866, never sold since 1866, nor made sometime before.

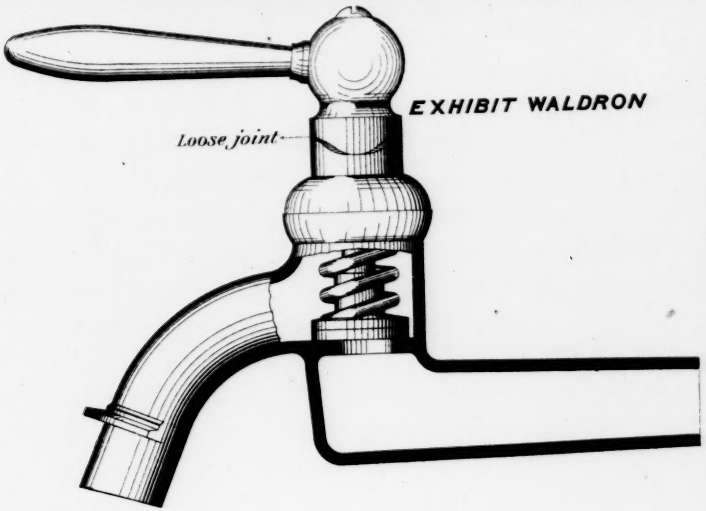
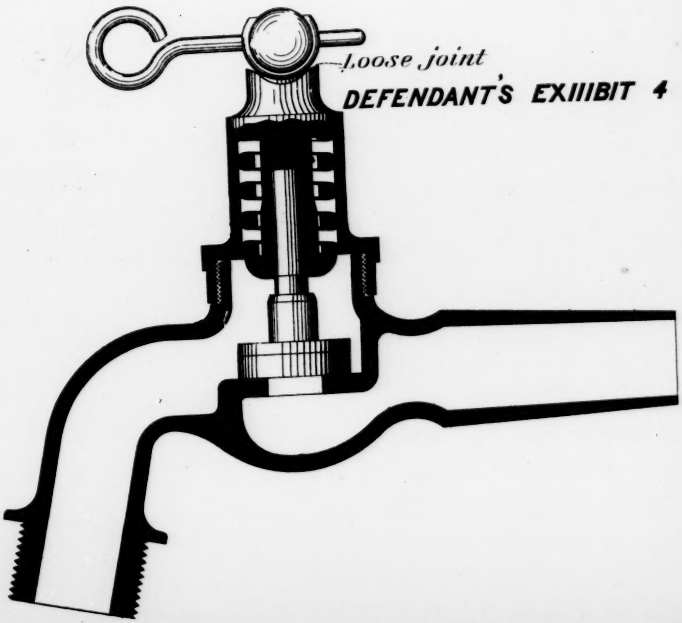
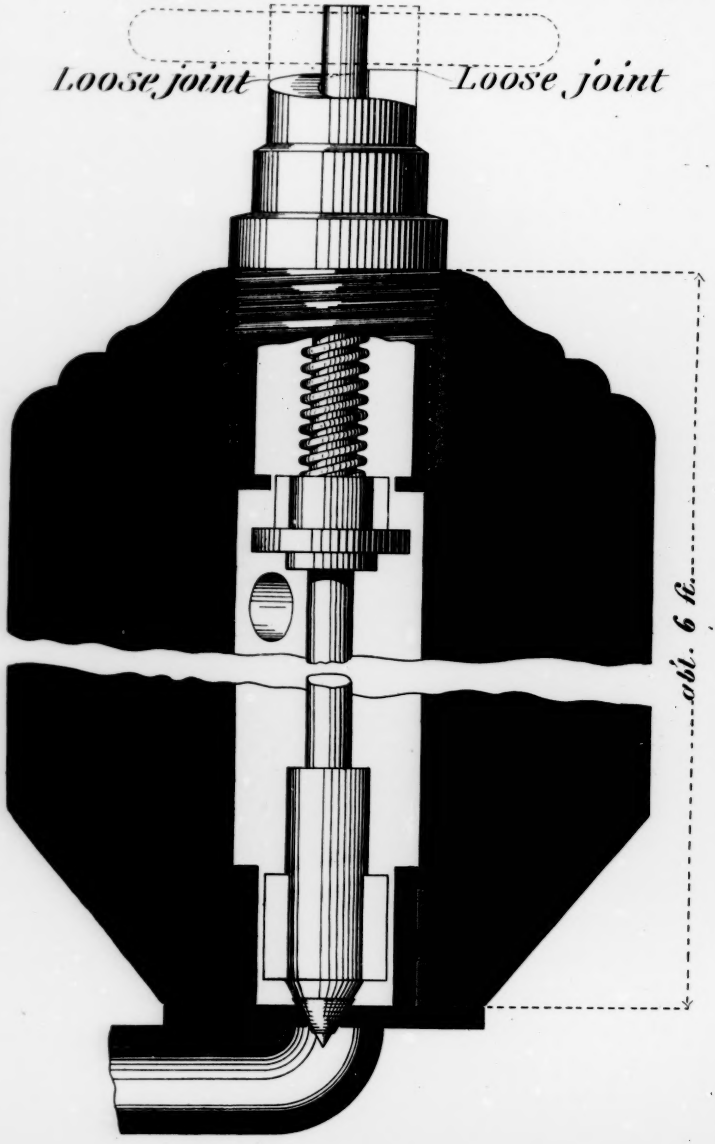


EXHIBIT WALDRON



DEFENDANT'S EXIIIBIT 4

DEFENDANT'S EXHIBIT 3.



The pins of "Exhibits 4 and 5" show them to have been experimental. The make-up of "Waldron faucet" shows it to be experimental. Neither is illustrated in the Bartholomew circulars (*Record*, pp. 36, 37). But another form of self-closing, spring bib-cock — the lever handle — is illustrated (*Record*, p. 37). "Exhibit 5" is partly new, and has been altered in its most material parts, the cams (*Record*, p. 48).

The hydrant is not self-closing, and a faucet on that or even a steeper pitch of crown snail is a spring compression and not self-closing ("Exhibit F," *Record*, p. 25) in the sense in which that phrase is used in the Jenkins patent.

"Exhibit 6" not a Reproduction.

Wassung says the principle of Bartholomew's cocks is in "Exhibit 6," but they were not like it (*Record*, p. 55). Morrison says there is a difference. He has been making cocks like "Exhibit 6" for himself since 1867, never before (*Record*, p. 49). He says "Exhibit 6" was *about* the style of Bartholomew's. An examination of "Exhibit 6" shows that the cap was probably made up from the cap of the "Waldron faucet," only cut deeper so as to make steeper inclines, as was also done by Morrison in the faucet he made for the Peck case to illustrate the Bartholomew cock (*post*, p. 38).

Two propositions hitherto well adhered to by the courts seem conclusive on this subject:

First. Work many years old, laid aside, stowed

in a lumber room, classed by the owner as uncommercial goods (old stock), only exhumed to figure in the defence of a patent suit on a patent which has been successfully worked, and to make public property that which the patentee only had brought to the attention of the present public, and within their reach and power of purchase, will not impeach a commercially successful patent.

Hall v. *Bird*, 3 Fish. 595, 601.
(s.c.) 6 Blatchf. 438.
Howe v. *Underwood*, 1 Fish. 160.

It requires for anticipation a practical machine.

Sayles v. *Chicago & N. W. R.R.*, 1 Biss. 468.
(s.c.) 2 Fish. 523.

And in the matter of approximations to inventions as anticipations, the fact of non-user through a long term of years (that goods became *old stock*), demonstrates incompleteness of structure and commercial unfitness, and is inconsistent with the notions of much utility in the old device.

Sayles v. *Chicago & N. W. R.R.*, 3 Biss. 52.
(s.c.) Fish. 586.
Hayden v. *Suffolk Mfg. Co.*, 4 Fish. 96.
Blake v. *Eagle Works*, 4 Fish. 590.

Second. Any evidence of anticipation *in pais* should be strongly supported, consistent with itself, supported by contemporaneous and ancient exhibits well accounted for, and in case of slight differences,

as in this case, producing a great commercial result, the mere memory of witnesses will be very carefully considered and reluctantly relied upon.

Hayden v. *Suffolk Mfg. Co., ubi supra.*

Judge SPRAGUE in Hayden's case charged that the best evidence would be the thing itself; next a model made from the thing itself while it existed; inferior to that still would be a contemporaneous written description. But when there are no such monuments of the old structure, and witnesses undertake to describe it in words, they and their testimony are to be scrutinized by these criteria:

Had they ability to observe accurately?

Had they opportunity to observe accurately?

Had they intelligence to understand and discriminate?

Had they occasion to keep in memory?

These criteria go to their ability to tell the truth.

Their moral integrity, freedom from bias, only go to disposition to tell the truth.

But ability is more fundamental.

The witnesses are Waldron, Wassung, Boyd and Morrison.

Waldron could not observe accurately, or understand and discriminate, for he calls "Exhibit 6" exactly like the Waldron faucet (*Record*, pp. 26, 63). Wassung had no occasion to remember, and, it is submitted, could not understand and discriminate very well (*Record*, pp. 54–57). Morrison had no occasion to remember, and by making a stop-cock

instead of a bib-cock, shows himself unable to observe accurately, to understand or discriminate. His interests as a manufacturer of self-closing faucets are adverse (*Record*, pp. 43–49). Boyd had no occasion to remember from 1851 to 1876 (*Record*, p. 59). He is clearly inaccurate about the nose of the hydrant and about the use of the wheel before the lever in 1847 (*Record*, pp. 32–36; *Bartholomew Patent* of August 12, 1846; *Boyd*, p. 60); and Boyd knows nothing about faucets, and the hydrants he tells of were not self-closing (*Appendix*, p. 40). The pitch of the crown snail is about 1:10 (7-16: 1 3-8 × π = 1:9.6), while a faucet, "Exhibit F," with a pitch of 1:6, is not self-closing (11-32: 11-16 × π = 1:63). (*Record*, pp. 24, 25, Ints. 3–5.)

These rules hold whether the evidence *in pais* is as to the state of the art or as to anticipation in full, for the distinction is as to degree of effect, whether injury or destruction of the patent; and maiming and murder are crimes of like nature, and have often been punished in like degree.

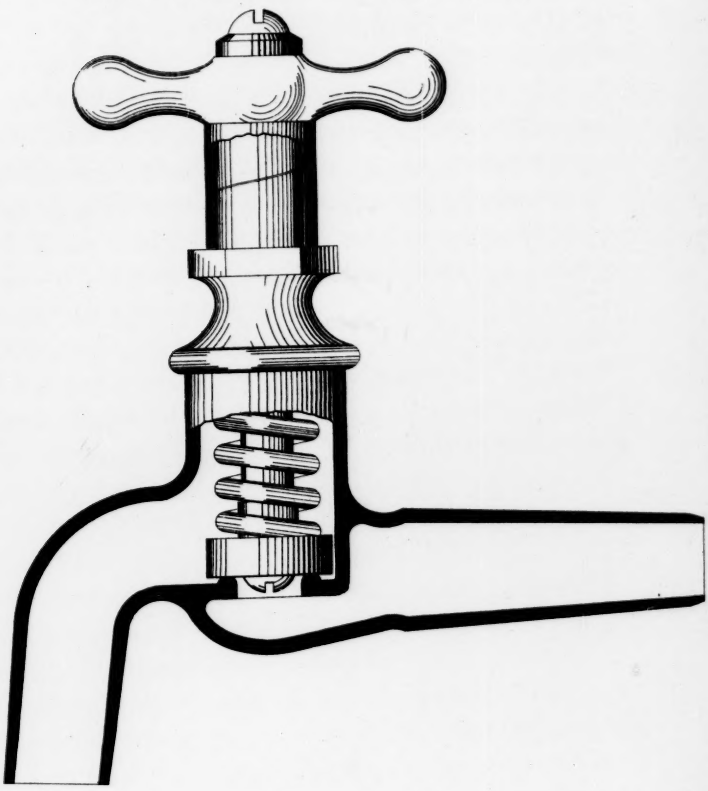
Infringement.

The Soffe faucet, "Defendant's Exhibit 1," is a compression faucet closing against the head of water. The Jenkins faucet in the patent, is a compression faucet closing with the head of water.

These two sorts of compression faucets have been known for many years. The Bartholomew patent of 1846 (*Record*, p. 35) states the antiquity of spring-closed compression faucets closing with the water,

EXHIBIT F.

SLOW SCREW COMPRESSION.



and asserts his invention of spring-closed compression faucets closing against the water.

Soffe practically admits that both sorts of compression cocks were old and well-known forms of faucet (*Record*, p. 39), and says the form closing against the water is preferable merely because of less liability to "water hammer" (*Record*, pp. 42, 43). And this is also Morrison's view (*Record*, p. 47).

The valve and valve-seat crossing the water way are therefore alike as means of stopping the flow of water or of permitting it. The spring for seating the valve must have the same action, — to drive the valve on to the valve-seat whether that valve shuts with or against the water head.

We have then a valve, valve-seat and spring driving the water to the seat, as essential parts of a self-closing faucet. These parts exist in the Jenkins patented faucet, and in the defendant's faucet pursued.

Soffe Faucet, "Defendants' Exhibit No. 1."

The question therefore is, is there a "screw-follower" combined with the valve of a self-closing faucet in this Soffe construction?

Bearing in mind what a "screw-follower" is, — a stem which when revolved on its axis engages a thread and exerts a longitudinal screw pressure along its axis in one direction only, and which does it by virtue of the presence of a "loose joint" or mere contact connection in one direction only, — bearing in mind that the crown snail of the Jenkins faucet, 3d

form, and of the hydrant, "Defendant's Exhibit 3," are described by Soffe himself as screws with quick threads (*Record*, p. 38), — bearing in mind that the answer construes the Jenkins patented contrivance as a combination of a screw and spring in which the screw does all the work of opening, and the spring all or most of the work of closing the valve (*Record*, p. 5), — bearing in mind that this cutting off of the handle from the valve in the closing direction is the Jenkins peculiarity as claimed by us (*Record*, pp. 9, 10 and 11), — bearing in mind that the Bate faucet, in its two forms has been held to be an infringement four times, and that in the last Peck case the infringing faucet had a T handle at the head of the valve-stem, a valve at its foot, and a lifting collar and a pair of laterally extending arms between the valve and the handle, the outer ends of which engaged with spiral inclines, up which the torsion of the handle forced the arms and thus raised the valve, that there were no corresponding inclines to force the valve to its seat, and that the "loose joint" of the Jenkins patented contrivance was between the lifting collar with its attachments and the spiral inclines, — it would be hard to resist the conclusion that the Soffe faucet embodies the distinctive features of Jenkins, and is an infringement.

Unless one goes into minute details, such as the presence of friction rollers at the engagement of the inclines and lifting collar in the Bate faucet, the position of the inclines over the cup in the Bate faucet, under the cup in the Soffe, the second Bate

and Soffe faucets may be described in identical language, and it appears from the exhibit ("Exhibit 7" in *Zane* v. *D'Este*) of one of the forms of Jenkins faucets (*Record*, p. 38) that spiral inclines below the neck were used by the makers of Jenkins cocks, and Soffe states his knowledge of this in the last paragraph before the claim of his patent (*Record*, p. 66).

He begins his patent (*Record*, p. 65) by referring to the Coffin patent No. 17,604, and the Bate patent No. 142,192, one of them no anticipation of Jenkins, the other a since decreed infringement, and claims to have made an improvement by putting the inclines in the water way instead of on the cap, which he thinks is somewhat preferable (*Record*, pp. 65, 66), and this, and this only, he patents.

The Soffe faucet is surely an infringement if the Bate faucet is. The only distinction that can be drawn between Soffe and Jenkins is that the Soffe faucet has spiral edge-cams which work only one way, because they make a contact connection only with the arms, while the Jenkins faucet has a spiral groove on the stem, and its mere contact connection at the end of the stem.

The defendants' expert says that the edge-cam and spring have been used as long as he can remember, to get motion in two directions (*Record*, p. 53), and that a screw must be capable of giving *positive* movement in two directions (*ibid.*).

Hence, as the Jenkins "screw-follower" cannot give positive motions in both directions, it is a screw-follower, not a mere screw, and the Soffe contrivance

is undistinguishable in substance or operative form from the Jenkins patented screw-follower, and as it is similarly combined with a valve to open the valve and put the closing spring in resilient tension, the Soffe faucet infringes the Jenkins patent.

The error of the Court below plainly arose from not observing the distinction between the "screw-follower" of the patent and the screw "as a follower" of the opinion (*Record*, pp. 68–109).

Summary.

The Jenkins patent had but one feature of novelty in it, the employment of a "screw-follower" in combination with the valve of a self-closing faucet, with an "open joint" in the construction, whereby the rotation of the handle was prevented from forcing the valve to its seat, but obliged to force it from its seat.

It never was claimed or held to have any other feature of novelty than that.

It always, except in this case, was held to have that feature.

If it is true that Bartholomew made bib-cocks with operative features just like those of "Exhibit 6," the Jenkins patent ought to be void.

It is not sufficiently proved that he did make such bib-cocks.

All the evidence which goes to make the Jenkins patent void was inadmissible because not pleaded in the statutory form, and is to be disregarded.

The infringement is clear.

The decree should be reversed, and an order for an accounting entered from January 17, 1868, to June 25, 1882, and for an injunction on the sale of any goods made before June 25, 1882.

APPENDIX

Containing Opinions of the Circuit Court sustaining the Jenkins patent for Self-closing Faucet.

Massachusetts, 1876, Shepley, J., . . . p. 27
Connecticut, 1877, Shipman, J., . . . p. 28
Connecticut, 1879, Shipman, J., . . . p. 32
Connecticut, 1881, Shipman, J., . . . p. 33
Connecticut, 1882, Shipman, J., . . . p. 41

Note. — If a further opinion is given in Massachusetts it will appear on page 45.

Illustrations.

Jenkins' patented Faucet, ... pp. 26–32
1st Infringement (D'Este and Peck), . . . p. 26
2d Infringement (Peck), ... p. 32

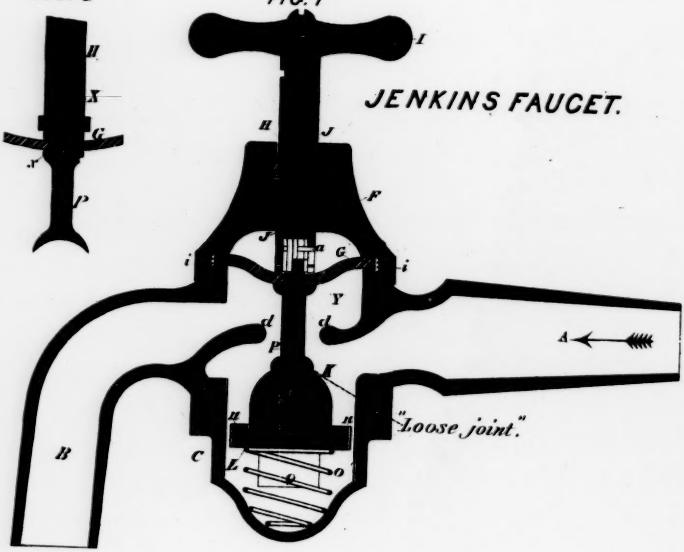
Anticipating Devices cited and overruled.

Cadet (English patent) . . (Illustration) p. 27
Coffin (American patent), . . . " p. 27
Morand (French patent), . . . " p. 30
"Bartholomew Bib-cock," . . . " p. 38
Bartholomew Hydrant . . . " p. 40
Faucets made by Bartholomew, . . " p. 39

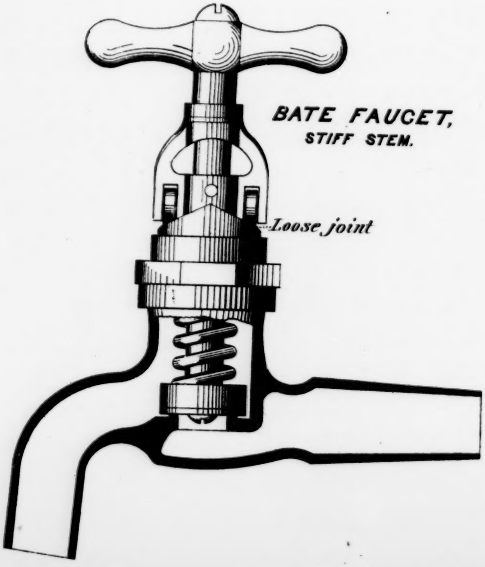
FIG. 2

FIG. 1

JENKINS FAUCET.



BATE FAUCET,
STIFF STEM.



N. CADET, ENGLISH PATENT.

NOV. 3RD 1856. Nº 2580.

FIG. 17.

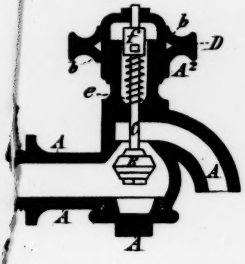


FIG. 18.

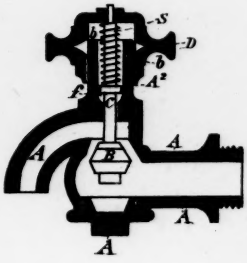
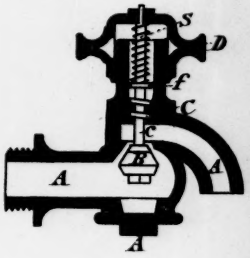


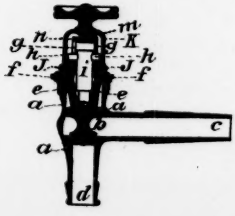
FIG. 19.



COFFIN PATENT. Nº 17604.

JUNE 16TH 1857.

FIG. 1.



APPENDIX.

CIRCUIT COURT OF THE UNITED STATES,

DISTRICT OF MASSACHUSETTS,

IN EQUITY. OCTOBER TERM, 1876.

JOSEPH ZANE ET AL. *v.* JULIAN D'ESTE ET AL.

RESCRIPT.

SHEPLEY, J.

A decree is to be entered that the patent No. 48,407, dated June 27, 1865, granted to Nathaniel Jenkins for improvement in self-closing cocks, is a good and valid patent, and that the defendants have infringed the first and second claims of said patent, which has been duly assigned to the complainants in this case; and the case is to be referred to a master, to take an account of the profits and damages by reason of such infringement; and a writ of injunction is to issue, according to the prayer of the bill, restraining the defendants, their agents, servants, &c., from infringing said Letters Patent; and as to so much of said bill as alleges infringement of the Letters Patent No. 81,948, granted Francis Roach, assigned to himself and Joseph Zane, for improvement in faucets, the bill be dismissed. Decree to be drawn up accordingly and submitted to the Court.

CIRCUIT COURT OF THE UNITED STATES.

DISTRICT OF CONNECTICUT.

IN EQUITY.

JOSEPH ZANE ET ALS. *v.* PECK BROS. & COMPANY.

OPINION OF THE COURT.

(AUGUST 11, 1877.)

SHIPMAN, J.

This is a bill in equity to restrain the defendants from the infringement of Letters Patent for a self-closing faucet, which were issued to Nathaniel Jenkins on June 27, 1865, and which have been duly assigned to the plaintiffs. The defendants admit infringement, and the sole question is as to the novelty of the alleged invention. The validity of the patent has been sustained by decree of the Circuit Court for the District of Massachusetts in a case where other anticipatory devices than those which are here relied upon were set up in defence. The present defendants are the licensees of the defendants in the Massachusetts case.

The invention consisted in opening a self-closing faucet by means of a quick-threaded screw-follower, the threads of which are inclined at so great a pitch that, when the power to turn the screw is removed, the pressure of the water and of a spiral spring under the valve forces the valve to its seat, where it is held

by the pressure of the water. The specification says that another part of the invention consists in combining with the valve and screw-follower a swivel, so that the rotatory movement of the spindle shall not be imparted to the valve, which shall have only an axial movement, and thus twisting or friction of the valve shall be prevented. This swivel connection of spindle and valve is frequently used in structures where rotation of the valve is not desired.

The faucet has gone into extensive use.

The claims of the patent are —

1. "The screw-follower H in combination with the valve of a self-closing faucet, substantially as set forth and for the purpose described."

2. "The combination of the swivel P, screw-follower H, valve K and spring O, substantially as and for the purpose described."

Self-closing faucets opening by means of a lever, and also by means of a quick-threaded screw, have long been known. The invention in this case is the combination of quick-threaded screw, valve and spring, substantially as described in the specification.

In the pre-existing English patent of Moses Poole, dated April 15, 1845, and in the specification of William Thomas Cheetham left with the English Commissioner of Patents March 14, 1860, and in the English patent of Thomas Melling dated October 6, 1857, no spring was used, and by reason of that omission those devices did not anticipate the Jenkins invention.

The French patent of Chretien Morand, dated

November 14, 1851, is chiefly relied upon by the defendants as anticipatory of the plaintiffs' patent. The Morand device was designed in part to prevent what is called the "water hammer," or the unpleasant sound which is caused by the re-action of the water when the valve is suddenly closed. The faucet is of two parts, of unequal size; the induction way is of larger size than the eduction way. There are two valves, also of unequal size. The outer valve is in rigid connection with and is turned by a quick-threaded screw-spindle. This valve is so connected with the inner one that the inner valve is guided longitudinally, and is forced to its seat by the same rotation of the screw-follower which operates upon the outer valve. The connection of the inner valve with the spindle is not by means of a swivel joint. Below the inner valve is a spring, which, with the pressure of the water, causes the valves to be closed when the power that turns the screw is removed. The patentee remarks that while he prefers two valves, "it will be understood that in certain cases he can employ but one." The manner in which the faucet will then be constructed is not described. By the use of two valves, the body of water which is between the valves forms a cushion which checks the force of the sound, or of the blow of the water hammer, when the faucet is suddenly closed.

The principal elements which are employed to produce a self-closing faucet, to wit, the screw-follower with a quick-threaded screw, valve and spring, are found in both the Morand and the Jenkins patents;

U.S. Circuit Court
Jane vs Brandies
Suit vs Peck Bros et al.

Defendants' Exhibit Chrétien Morand
Patent 1851 Drawing - January 22 1880
H.L.T. Spl Exr.

Fig: 1

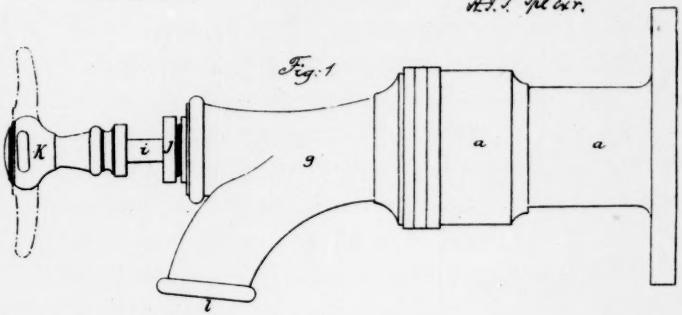


Fig: 2

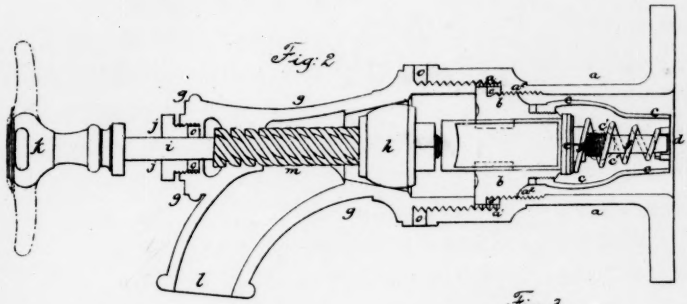


Fig: 3.

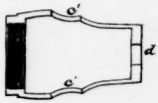
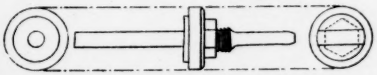


Fig: 4.



Paris le 13 novembre 1851.
Chrétien Morand

Vue pour être annexé au Brevet de quinze ans
pris le 14 novembre 1851 par le Sr. Christien Morand
Paris le 20 janvier 1852
Pour le Ministre et par délégation
Le Secrétaire Général
(Signé) Victor de Laveney

Pour Copie Conforme
Le Général de division
Directeur
du Conservatoire des Arts et Métiers

Paris, le 7 Janvier 1880

but the double valves of Morand, and the general method in which the mechanism of the inner valve and the spring was arranged, with reference to each other and to the water-way, caused his faucet to be cumbersome and lacking in simplicity and economy. It was a contrivance of many parts, and lacked general utility. Jenkins omitted one of the valves, and of course discarded the connection between the two, and made the passage-ways for the entrance and discharge of the water of the same size, and connected the valve and the screw-follower by a swivel, and generally materially simplified the construction and arrangement of the valve and spring mechanism. He thus made a simple and economical self-closing faucet, which has gone into general use. He has produced the old result of Morand in a more economical and beneficial manner. The invention of Jenkins is subsidiary to that of Morand, but he has essentially changed the Morand device in such manner that, by the change, the thing which is produced is practically a new structure, and his improved device is therefore patentable.

This change was not merely formal, but was, to a certain degree, a structural change and modification of the parts of the Morand faucet; which change required inventive and not merely mechanical skill, and required a sufficient exercise of the inventive faculty to justify the grant of an exclusive right to the use and sale of the article which was produced.

It was not simply the "carrying forward or new or more extended application of the original thought,"

and was not "a change only in form, properties or degree." (*Smith* v. *Nichols*, 21 Wall. 112).

Let there be a decree for an injunction and an account.

THOS: WM: CLARKE,
for Plaintiffs.

BENJAMIN F. THURSTON,
for Defendants.

OPINION ON CONTEMPT PETITION STIFF-STEM INFRINGEMENT, 1879.

CIRCUIT COURT OF THE UNITED STATES,
FOR THE DISTRICT OF CONNECTICUT.

JOSEPH ZANE & CO. *v.* PECK BROTHERS & CO.

MOTION FOR ATTACHMENT FOR CONTEMPT.

SHIPMAN, J.

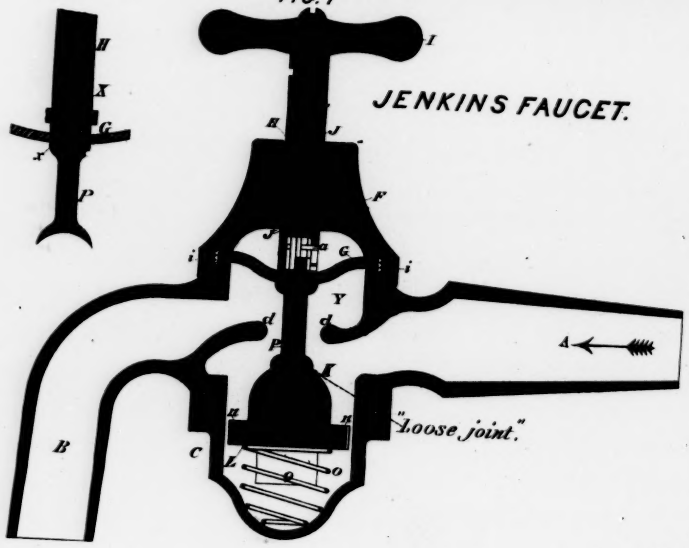
In view of the character of the affidavits of the experts which have been offered by the defendant, I do not think that the question of infringement can properly be decided upon a motion for attachment. It is expedient to leave the plaintiffs to an original action, to the end that the question may be decided upon full proofs and hearing.

The motion is therefore denied.

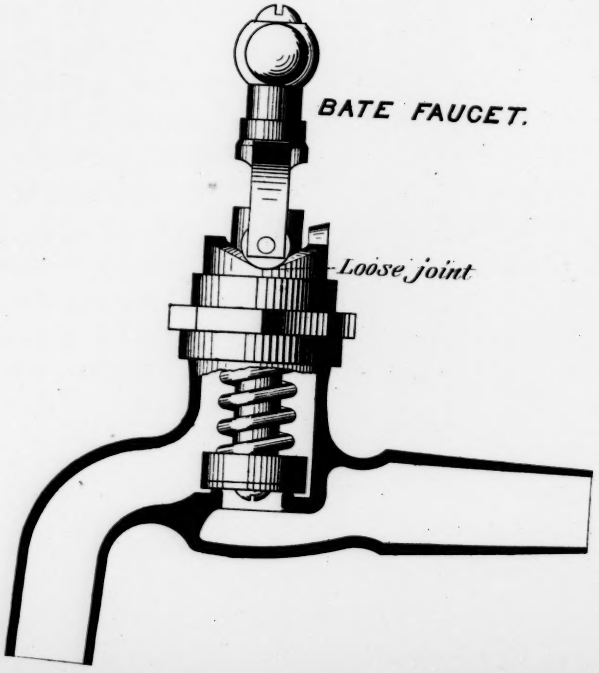
FIG. 2

FIG. 1

JENKINS FAUCET.



BATE FAUCET.



OPINION ON STIFF-STEM INFRINGEMENT, 1881.

CIRCUIT COURT OF THE UNITED STATES,
FOR THE DISTRICT OF CONNECTICUT.

JOSEPH ZANE AND FRANCIS ROACH *v.* PECK BROTHERS & CO.

SHIPMAN, J.

This is a bill in equity to restrain the defendant from the alleged infringement of two Letters Patent, one granted June 27, 1865, to Nathaniel Jenkins, and the other, reissue No. 7571, granted March 27, 1877, to Francis Roach, assignor to the plaintiffs. The original was dated September 8, 1868. Each patent is owned by the plaintiffs, and is for an improved self-closing faucet.

The validity of the Jenkins patent was sustained by Judge Shepley in the District of Massachusetts, in the suit of D'Este, McKenzie and Bate. The plaintiffs then brought a bill in equity in this district against the present defendant, alleging the use of the same device which had been held by Judge Shepley to be an infringement. The defendant was a licensee of D'Este & Co. Infringement was here admitted, and the validity of the patent was again sustained.

The Jenkins invention was described in the opinion in the last-mentioned case as follows: "The invention consisted in opening a self-closing faucet by means of a quick-threaded screw-follower, the threads of which are inclined at so great a pitch that when the power to turn the screw is removed, the pressure of

the water and of a spiral spring under the valve forces the valve to its seat, where it is held by the pressure of the water. The specification says, that another part of the invention consisted in combining with the valve and screw-follower a swivel, so that the rotary movement of the spindle shall not be imparted to the valve, which shall have only an axial movement, and thus twisting or friction of the valve shall be prevented. This swivel connection of spindle and valve is frequently used in structures where rotation of the valve is not desired.

"The faucet has gone into extensive use."

The claims of the patent are:

1. "The screw-follower H, in combination with the valve of a self-closing faucet, substantially as set forth, and for the purpose described.

2. "The combination of the swivel P, screw-follower H, valve K and spring O, substantially as and for the purpose described."

The defendant now manufactures and sells a faucet like the one the use of which was enjoined, except that the former swivel is pinned to the screw-follower, so as no longer to be a swivel, but to be an extension of the screw-follower.

Had it not been for the history of the litigation, the defence of non-infringement would have been strongly pressed; but after the decision of Judge Shepley, and the admission of the defendant in the former suit in this district, it is useless to consider that question, except with reference to the point whether the swivel is included in the first claim of the patent. It is

obvious that it is not claimed in terms in the first claim, and that in the specification the two branches of the invention are distinctly set forth.

The principle of the patentee's self-closing faucet was a combination of the several parts by which the valve was to be forced to its seat solely by the operation of the spring and the pressure of the water, and the valve was to be removed from its seat solely by the twisting of the handle of the screw-following apparatus. The screw was to do nothing in forcing the valve to its seat. The spring was to do nothing in removing the valve from its seat. The inclines of the screw were so quick that the spring could immediately force the valve to its seat whenever the person who was using the faucet released [illegible]d upon the handle of the screw-follower. The connection between the screw and the valve must be by contact only, so that when the valve was returned to its seat the spring should do the entire work, and when the valve was forced away from its seat, it should be effected by pushing the valve. There could be no rigid connection between the valve and the screw-follower or the swivel.

The operation of the defendants' faucet is thus correctly described by the plaintiffs' expert: "I find the valve having a movement at right angles to the plane of the valve-seat, which movement is controlled in the direction necessary for the closing motion to act, by means of a spring, and is controlled in the opposite direction by means of a cross-head or handles attached directly or indirectly to the valve-stem, and

a quick screw-thread or spiral incline. Torsional movement of the cross-head serves to cause the valve-stem to traverse in the direction necessary for opening the valve, but the said torsional movement of the cross-head has no effect whatever in forcing the valve on to its seat, as the spiral inclines which, in case of torsional movement at the handle, cause the valve to move away from its seat, have no corresponding inclines to force the valve on to its seat; in other words, there is a loose joint or connection between the handle and the valve mechanism, which allows the force imparted by the operator to act in one direction, that is, in the direction necessary to open the valve, and does not allow of any positive force being communicated from the handle to force the valve on to its seat. This loose joint in 'Exhibit E' consists in the lifting collar or sleeve having the friction rollers and the spiral inclines on the top of the faucet."

By "loose joint," the expert means a joint in which the parts act upon each other by a pushing motion, and not by pulling. The loose joint in the Jenkins patent is between the swivel and the valve.

It is, therefore, immaterial whether there is a swivel, or whether the part formerly acting as a swivel is pinned to the screw-follower. This explanation of the Jenkins patent prevents the French patent of 1861, to Lamy and LeNormand, from being an anticipation. The valve of this device can be aided in being drawn to its seat by turning the screw in the opposite direction from that required to throw the valve from its seat. The Chretien Morand French

Lamy et Lenormand — Robinets -

Fig. 1.

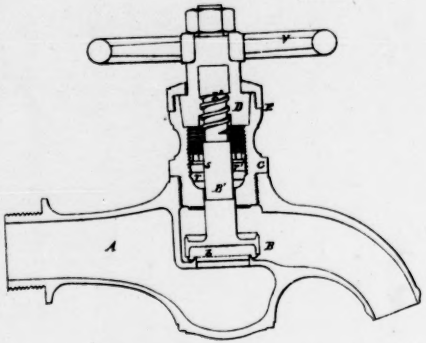


Fig. 2.

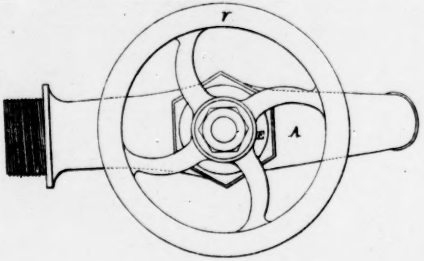


Fig. 3.

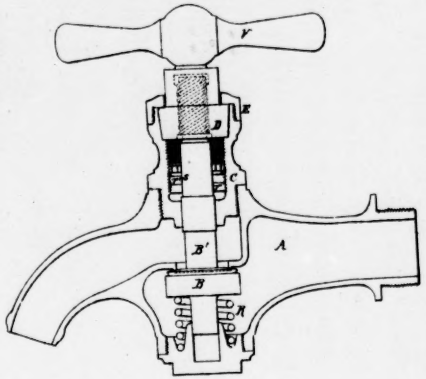
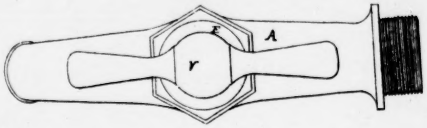


Fig. 4.



patent, the only other anticipatory patent apparently relied upon by the defendant, was sufficiently considered in the former case.

The strength of the defence was in the alleged fact that self-closing faucets, constructed substantially like the defendants' device, were made and sold in the city of New York, between 1852 and 1856, by F. H. Bartholomew, a well-known manufacturer of hydrants and plumbers' articles, who was also an inventor and patentee of hydrants, valves and water-closets. Mr. Bartholomew is now dead, and no specimen of his faucet is produced. His former foreman, who is also now a manufacturer of plumbers' materials, has presented a faucet which he considers to be a reproduction of those made by Bartholomew, and which is substantially the defendant's article. If it is a reproduction, the Jenkins patent was anticipated between 1852 and 1856.

There is produced on the one hand the testimony of the foreman and of divers workmen, who testify, in substance, that faucets like the sample were made by Bartholomew, and that one was in use in his shop. Other workmen of his who were employed at the same time do not remember such an article. There is also the negative testimony of plumbers who did business with him, that they never saw such an article in his stock, and that if such a faucet had been made, it would have been in demand. No sales of such a faucet can be recognized upon Bartholomew's books.

The Jenkins patent has been in existence since

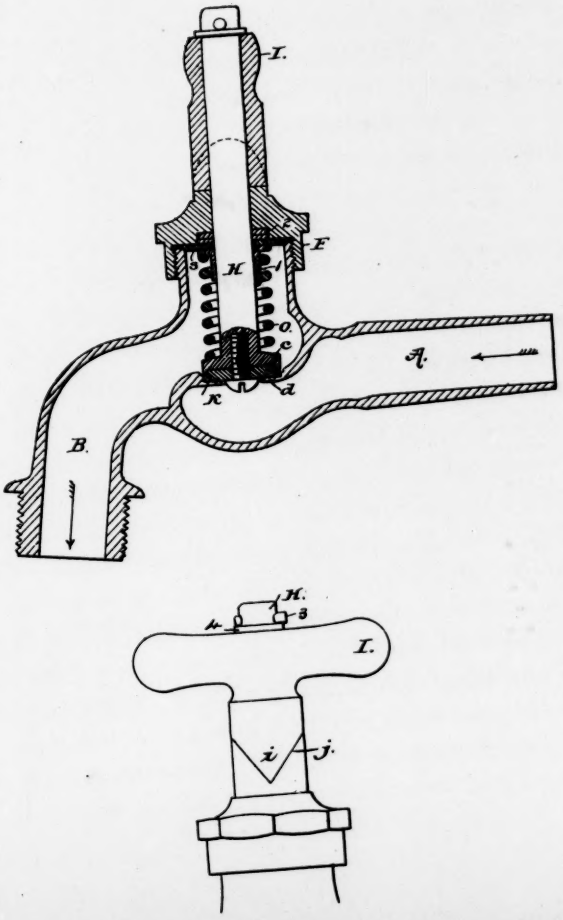
1865. The faucet has gone into extensive use, especially in places where an article was required which could endure constant and hard wear. Clear proof is required that an old patent upon an article used in every-day life, and which has long been in demand by the public, was anticipated by an article made in the city of New York before 1856, the knowledge of such anticipation having been ascertained about 1879. If the patent had been anticipated by the Bartholomew faucet, it seems probable that the manufacturers of such articles would have taken advantage of the fact.

The evidence shows that Bartholmew had the idea of a faucet, the valve being drawn from its seat by a key which rode up the inclines of a V shaped cap; that he made such faucets, and sold a few; that they were not a success, and that he did not continue the manufacture. He made, as testified by Waldron, three kinds. A duplicate of one of these kinds is in the case. The inclined surfaces of this kind are almost flat on the top, and it is not necessarily a self-closing faucet. The point in this part of the case is, whether he made the faucet with a cap having the sharp and deep V, which is shown by General Morrison, and which is also testified to by Waldron and others. It is somewhat significant that the old cap from which the Morrison casting was made is not in evidence. That cap was an important part of the Bartholomew faucet, and General Morrison admits that "the V in the new cap is deeper than in

Zane et al vs L. Brandeis In Equity

Defts Exhibit

"Bartholomew Self-closing Bibb. Cock".



the old cap." The testimony of all these witnesses is merely from recollection of the shape of a few articles made from twenty-three to twenty-five years before they testified, and is not sufficient to destroy the presumption of a patent upon an article which has been long and extensively used. It may be that the present recollection of these witnesses in regard to a comparatively insignificant part of their work between 1853 and 1856, is accurate; but, in the absence of specimens of the work made at the time, such testimony is an unsafe foundation upon which to rest a finding that the patent had been anticipated.

The Bartholomew self-closing hydrant is also relied upon by the defendant. Bartholomew was largely engaged, between 1846 and 1856, in the sale of hydrants which were made under his patent of August 12, 1846. This patent represents the valve as opened by a lever, "or instead of this," the specification says, "the valve-stem may extend through the top of the cap, there to be operated in any desired manner." General Morrison and other witnesses say that Bartholomew made some hydrants before 1856, which went into use in the city of New York, the valves of which were lifted by a handle at the top of the hydrant. The witness says, "On turning the handle, its incline coming in contact with the incline on the cap, raised the valve-rod or spindle against the pressure of the spring, at the same time raising the valve from its seat, and thus allowed the water to pass.

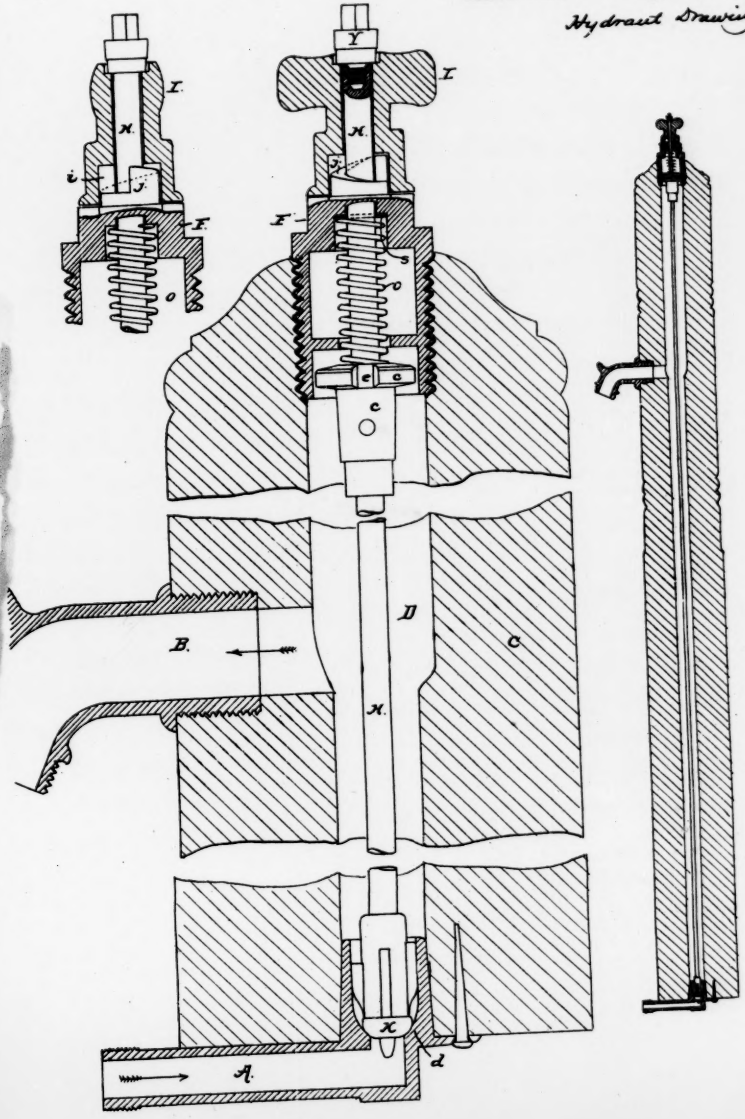
By letting go the handle, the spring returned the valve automatically to its seat, thus making the valve self-closing." After 1856 none were sold, except two, which lay in the shop until 1877, and then were sold to Mr. Soffe as exhibits in a suit upon the Jenkins patent. One of these did not have a pitch which would cause the handle to drop when left at any point. The other, which is the exhibit in this case, has a quicker pitch, and, if it ever had been used, might have been treated as an anticipation of the patent. Whether those which were sold for use were like the other Soffe exhibit, or like this, is not made clear. This method of opening the valve was not, apparently, regarded by Bartholomew as important. He laid no stress upon it in his advertisements, he treated it as unimportant in his patent. He made a few, but probably the use of the lever was preferred, and he made no more.

Judge SHEPLEY found that the defendant in the Massachusetts case did not infringe the Roach patent. Since his decision, the patent has been reissued, and it is now insisted that there is an infringement of the second and fourth claims. I do not perceive any modification of the original patent which is sufficient to cause a modification of Judge SHEPLEY'S opinion. The "rotating key" of Roach is not used by the defendants.

Let there be a decree for an injunction, and for an accounting, for an infringement of the first claim of the Jenkins patent, and dismissing so much of the

Zane et al vs L. Brandeis
In Equity

Defts' Exhibit
"Bartholomew Self-closing
Hydrant Drawing"



bill as relates to an infringement of the Roach reissued patent.

THOS: WM: CLARKE,
for Plaintiffs.

M. B. PHILIPP AND CHARLES R. INGERSOLL,
for Defendants.

OPINION ON STIFF-STEM ACCOUNTING, 1882.

CIRCUIT COURT OF THE UNITED STATES,
FOR THE DISTRICT OF CONNECTICUT.

JOSEPH ZANE ET AL. *v.* PECK BROTHERS & CO.

SHIPMAN, J.

The questions now at issue arise upon the defendants' exceptions to the master's report. The first class of exceptions is in substance that the master erred "in charging the defendants with profits and damages in respect of the entire Bate faucet, when they were only chargeable in respect of the particular improvement embodied therein, which had been patented to Jenkins."

The invention was an improved self-closing faucet, and consisted in a new combination of the old devices previously used in faucets of this kind; viz., a screw-follower with a quick-threaded screw, valve and spring. The combination is a simple one, and the

value of the faucet consists in its simplicity and strength, and its consequent fitness for hard, rough usage. It has gone into extensive use.

The principle of the invention "was a combination of the several parts by which the valve was to be forced to its seat solely by the operation of the spring and the pressure of the water, and the valve was to be removed from its seat solely by the twisting of the handle of the screw-following apparatus. . . . . The connection between the screw and the valve must be by contact only, so that when the valve was returned to its seat the spring should do the entire work, and when the valve was forced away from its seat it should be effected by pushing the valve. There could be no rigid connection between the valve and the screw-follower or the swivel" (*Zane* v. *Peck Brothers & Co.*, 9 Fed. Rep. 101).

The defendants took this principle, made at first the plaintiffs' faucet with a swivel, and having been enjoined against such manufacture, made a faucet with the swivel pinned to the screw-follower.

This infringing device is the one now under consideration.

The faucet consisted, in connection with a twisting handle, — which is a portion of the screw-follower, — in this new combination of old and common elements. There are no other parts or features in the structure apart from the ordinary induction and eduction way. Other faucets had quick-threaded screws and valves operated by the screw-follower, and probably

had their own advantages, but this novel arrangement of all the elements of such a faucet had a peculiar utility, which gave it its value and character and created a wide market. When the defendants took this combination, they took that which had given the Jenkins faucet its value and success, and they took the combination which made the faucet.

In this respect the case is unlike *Garrettson* v. *Clark*, 15 Blatchf. (C.C. R.) 70, and similar cases.

The remaining class of exceptions is that the master erred in finding that the plaintiffs were damaged by the defendants' infringement, by loss of sales, to the amount of $1651.14, that amount being the profits which the plaintiffs would have made had they supplied the same purchasers.

I think that the master was justified by the testimony in finding that, but for the infringement, the plaintiffs would have made the sales of their faucets to their old customers which were made to them of the infringing faucets by the defendants, and that the plaintiffs' profits would have been $1615.14.

The question in this part of the case being as to the loss or damage in excess of the defendants' profits, which the plaintiffs sustained by reason of the infringement, and the master having properly found that by reason of the infringement the plaintiffs lost the specified sales, the damage is fairly estimated by the amount which the plaintiffs would have received for the goods deducting the cost of manufacture and of sale. In the cost of sale, the store expenses, such as clerk hire, storage, freight, &c., should be estimated

upon sales of any large amount. In this case, in view of the fact that the principal part of the plaintiffs' fixtures are sold by Mr. Yeley, of New York, this class of expenses upon sales of about $3800 would add such a trifling amount to the existing expenses of conducting the plaintiffs' business that it is not desirable to subject the defendants to the expense of sending the case back to the master for a re-accounting. The amount, if any, which would be deducted from the $1613.14 would be very small.

The defendants' exceptions are overruled.

The motion by the plaintiffs for treble damages is denied.

THOS. WM. CLARKE,
for the Plaintiffs.

CHARLES H. INGERSOLL,
for the Defendants.

110-200

SUPREME COURT OF THE UNITED STATES

SUPREME COURT U.S.
FILED
W. McKENNEY, CLK

JOSEPH ZANE and FRANCIS ROACH,
Appellants,

against

HENRY SOFFE.
Respondent.

RESPONDENT'S BRIEF.

Appeal from the U. S. Circuit Court

FOR THE

SOUTHERN DISTRICT OF NEW YORK.

HENRY P. WELLS,
Respondent's Counsel,
24 Park Place,
New York City.

CHAS. W. ADAMS,
LAW CASE PRINTER,
169–170 Fulton St., N. Y.
1883.

Supreme Court

OF THE UNITED STATES.

JOSEPH ZANE and FRANCIS ROACH,
Appellants,

vs.

HENRY SOFFE,
Respondent.

In Equity.

Appeal from the Circuit Court of the United States for the Southern District of New York.

BRIEF ON THE PART OF RESPONDENT.

Suit was brought against the Respondent for alleged infringement of Patent No. 48,407, dated June 27th, 1865, to Nathaniel Jenkins, of which these Appellants were assignees.

That Patent has since expired.

Its specification (P. 12 of Record) thus describes Jenkins' invention:

"The nature of my invention consists in opening a "self-closing faucet by means of a screw-follower, *H*,

" whose threads are so inclined *that the pressure of the* " *water and the spring*, O, *under the valve*, K, *will be* " *sufficient to rotate said follower, and thereby close the* " *faucet*, while at the same time, by means of said " inclined screw, it is easy to open the valve, and hold " the same open so long as it may be required to let the " water run."

" My invention further consists in combining with " said self-closing valve and screw-follower *a swivel*, P, " *to prevent the twisting and friction of the valve*, which " would otherwise occur."

The Court, lest it be misled as to what Jenkins really invented, is respectfully requested to compare the Exhibits offered by the Appellant as made pursuant to this Patent, with the drawings thereof facing page 14 of the record and the foregoing statement of invention. With one exception, those Exhibits are (in the opinion of Respondent's Counsel) an entire departure from the Patent. They close against, instead of with, the pressure of the water—the valve operates from above, instead of below. It is pulled upward from its seat, and not pushed downward—the swivel, *P*, as well as other parts shown and described, is entirely omitted, and the valve does twist, thus departing from almost every feature which constituted "the nature of my [Jenkins'] invention" when his Patent issued.

FIRST.

SELF-CLOSING FAUCETS WERE OLD AND WELL-KNOWN LONG PRIOR TO THE DATE OF JENKINS' PATENT.

It is sufficient, in support of this, to quote as follows from the Opinion of Judge Shipman, rendered at final hearing in a suit brought by these Appellants, upon this very Patent, against Peck, Bros. & Co., in the Circuit for the District of Connecticut, reported 12 O. G., P. 518:

"Self-closing faucets, opening by means of a lever, "and also by means of a quick-threaded screw, have "been long known." * * * * "The French Patent "of Cretien Morand, dated November 14, 1851, is "chiefly relied upon by the defendants as anticipatory "of the plaintiff's patent." * * * * "*The prin-*"*cipal elements which are employed to produce a self-*"*closing faucet, to wit, the screw-follower, with a quick-*"*threaded screw, valve and spring, are found in both*"*the Morand and the Jenkins Patents.*" * * * * "The invention of Jenkins is subsidiary to that of "Morand; but he has essentially changed the Morand "device. * * * * This change was not merely "formal, but was, to a certain degree, a structural "change and modification of the parts of the Morand "faucet."

IT IS CONCLUSIVE, THEREFORE, THAT JENKINS WAS NO PIONEER INVENTOR; NOT ONLY THAT, BUT FROM THE FOREGOING AND REASONS HEREAFTER SET FORTH, IT IS EQUALLY CLEAR THAT HIS INVENTION LAY WITHIN NARROW LIMITS, AS HE HIMSELF STATES IN HIS SPECIFICATION; AND THAT IT WAS A STEP BACKWARD RATHER THAN FORWARD IN THE ART; he, therefore, and these Appellants, his assignees, "can only claim his particular apparatus, or that which "is substantially the same."

The C. and N. W. R. R. Co. v. Sayles, U. S. Supreme Ct., 1878, 15 O. G., 243.

The Respondent, on the 10th day of March, 1874, obtained Patent 148,520 for the self-closing faucet,

shown as Defendant's Exhibit No. 1, and also shown and described in his Patent, reproduced on Page 64 of this Record.

This invention consisted of a rotating valve stem, with a valve *rigidly attached thereto and rotating therewith*. Two riders formed part of the valve, which, as the valve-stem was rotated, rode upward on two V-shaped inclines within the body of the faucet and adjacent to the valve-seat, and thus raised the valve *with the pressure of water*. A spiral spring, when the valve-stem was released, threw the valve back to its seat, *against the pressure of the water*.

This suit was brought against this faucet as an infringement of the Jenkins Patent.

CLAIM OF INFRINGEMENT IS CONFINED TO THE FIRST CLAIM OF THAT PATENT, by admission of Appellants' Counsel, Page 39 of Record.

That claim reads: "The screw-follower, *H*, in com-
" bination with the valve of a self-closing faucet, sub-
" stantially as set forth, and for the purpose described."

Simple inspection of the Respondent's faucet, and comparison with the specification and drawings of the Jenkins' Patent, (Page 14 of Record), would seem to be sufficient to defeat this Appeal. (*This Court is again respectfully requested to make this comparison directly with the Patent itself, and not with the Exhibits alleged incorrectly, as respondent's counsel believes, to embody it.*

Thereon it at once becomes apparent that the swivel, *F*, and the diaphragm, *G*, are wanting in the Respondent's faucet; that the form of valve, the location and mode of operation of both the valve and the spring, and the method by which the valve is opened and closed, are all different. That the nature of Respondent's invention does not consist, as Jenkins declares in his specification his does, "in opening a self-closing faucet by means of a
" screw-follower, *H*, whose threads are so inclined *that*
" *the pressure of the water and the spring*, O, *under the*
" *valve*, K, will be sufficient to rotate said follower, and
" thereby close the faucet."

It also shows that the respondent's invention does not consist, as Jenkins declares his does, "in combining

" with said self-closing valve and screw-follower a " swivel, *P*, to prevent the twisting and friction of the " valve which would otherwise occur," *since the swivel*, P, *is entirely wanting, and the Respondent's valve does twist, which Jenkins declares it is his object to prevent.*

SECOND.

But when Judge Shipman's Opinion, before cited, as to the State of the Art, is brought to mind, the conclusion of the Circuit that the Respondent's faucet did not infringe the Jenkins' Patent seems irresistible.

It is to be borne in mind that these Appellants were the Complainants in the suit before Judge Shipman, and had every opportunity of cross-examination and direct evidence to overthrow the testimony on which Judge Shipman's views of the state of the Art were based.

Judge Shipman says, (Zane, et al. vs. Peck, Bros. & Co., 12 O. G., P. 519,) " The principal elements which " are employed to produce a self-closing faucet, to wit, " the screw-follower, with a quick-threaded screw, valve " and spring, are found in both the Morand and Jenkins Patents."

It also appears, from the same opinion, that the Morand Patent was dated November 14th, 1851, nearly fourteen years before the Jenkins Patent (June 27th, 1865).

Therefore it cannot be disputed that the right to use a " screw-follower, with a quick threaded screw, a valve, and " a spring, to produce a self-closing faucet," was public property which any one had a right to employ.

The Respon't's faucet does not employ a quick threaded screw. Attached to and forming part of the valve itself are two V shaped riders, which ride upward on V shaped inclines forming part of the body of the faucet, when the valve stem is rotated; and thus the valve is raised. *These inclines are not a screw*, nor any part of a screw. It is a double cam movement. The threads of a screw are uniform in pitch—the inclines of the

respondent have an increasing pitch. When a screw is rotated in opposite direction, its longitudinal movement is in opposite directions;—whereas when Respondent's inclines are rotated in opposite directions, they give motion in one and the same direction.

If this view is correct, the Court below must be sustained, since the First Claim of the Jenkins' Patent, to which this suit is limited, reads: "The screw follower "// in combination with the valve of a self-closing "faucet, substantially as set forth and for the purpose "described."

If the screw-follower // is wanting in the Soffe faucet, the Combination claimed is also absent.

THIRD.

But should it, for the sake of argument, be admitted (and which this Respondent emphatically denies) that the double inclines and riders of the Respondent's are equivalents of the Jenkins screw-follower // in the sense of the Patent Law, even then the same conclusion is irresistible, that the Circuit Court correctly adjudged that the Respondent's faucet did not infringe.

And this for two reasons:

A.

The claim in controversy of the Jenkins Patent—("The screw-follower // in combination with the valve "of a self-closing faucet, substantially as set forth, and "for the purpose described,") must be construed *either* to mean:

1st. The screw-follower in combination with any form of valve of a self-closing faucet, or—

2nd. The screw-follower // in combination with substantially such a valve as is "set forth" in the specification and drawings.

The State of the Art forbids the first construction, since Judge Shipman has decided that fourteen years earlier the Morand Patent contained such a screw-follower combined with a valve in a self-closing faucet.

Taking then the the second and only remaining construction, and it is at once apparent that no valve "substantially as set forth" in the Jenkins Patent is found in the Respondent's faucet. *The two valves could hardly be more dissimilar.*

The Jenkins valve is composed of several parts, which he thus describes: (P. 13 of Record.)

"*K* is the valve of rubber or other suitable material, "the bottom of which has a projecting ring or flange "*N*, which enters a corresponding groove in the top of "the metallic base *I*, whereby the two are combined "together. *Q* is a round shank extending downward "from the centre of the base *L*, around which is placed "the sprial spring *O*, the design of said spring being to "force the valve *K* upward to its seat, *d*, where it will "be held by the pressure of the water."

The Respondent's valve on the contrary is simplicity itself, being only a single solid piece of metal.

Jenkins' valve is below the valve seat in a separate receptacle *C*, "the valve-chamber confined to the cen-"tre of the faucet by means of the screw *e*."

The respondent's valve is above the valve seat, and requires and has no separate valve chamber.

Jenkins' valve *closes with the pressure of the water*, aided by a spring, where it is "held by the pressure of "the water." This stops the flow instantly, causing a concussion known as the "water hammer," and has long been abandoned because of its liability to burst the pipes (P. 39–47 of Record). It is a significant fact in this connection, that the faucets heretofore introduced in this suit as made in accordance with the Jenkins Patent, (and to which Respondent's Counsel has heretofore called the attention of the Court, as in his opinion altogether without that Patent, and which it is believed are the only faucets these Appellants have ever sold into public use as made under that Patent), *close against the pressure of the water, instead of with it,* as called for by their Patent.

The Respondent's faucet closes against the pressure of the water, and thus obviates that difficulty.

Jenkins says: "My invention further consists in

" combining with said self-closing valve and screw-fol-
" lower a swivel *P, to prevent the twisting and friction*
" *of the valve which would otherwise occur.*" His valve has only an up and down motion, and does not twist on its perpendicular axis when opened.

The Respondent's valve is ridgidly connected with its valve stem *and does twist* with the valve stem.

For these, and other reasons stated in the following Point, it is conclusive that no valve " substantially as " set forth " in the Jenkins Patent is found in the Respondent's faucet.

Therefore one element of the Jenkins combination is certainly wanting, and it is clear the Court below could not do other than it did, *i. e.* hold that there was no infringement.

B.

But not only are the elements of the Jenkins combination wanting in the Respondent's faucet, but the elements which the latter has are not combined in the same way.

For it follows from Judge Shipman's finding as to the State of the Art, *that the Respondent, in common with the public at-large, had a right to construct a self-closing faucet by combining a "screw-follower with a " quick threaded screw, a valve, and spring,*" since that was embodied in Morand's Patent antedating Jenkins nearly fourteen years (1851–1865). Therefore, for the Respondent's faucet to infringe the Jenkin's Patent these elements, being public property, must be combined in substantially the same way as Jenkins combined them.

The most cursory comparison of the Responden's faucet (Defendant's Ex. 1) with the drawings of the Jenkins Patent on page 14 of the Record, (and again the Court is requested to make this comparison directly with the Jenkins Patent itself), will show that this is not the case.

The screw-follower *H* in the Jenkins Patent is

loosely connected with the valve through an intermediate part, the swivel *P*.

In the Respondent's faucet the valve stem is ridgidly connected to the valve itself, and no swivel or intermediate part is employed.

A diaphragm *G* is employed in the Jenkins faucet to prevent the escape of water around the screw-follower, the threads upon which prevents the use of the packing commonly used around a valve stem for that purpose.

Respondent's faucet omits the diaphragm, and employs the ordinary packing.

The valve in the Jenkins faucet is placed below the valve seat, *and closes with the pressure of the water*, thus being open to the very grave objection of causing the "water hammer," so liable to burst the pipes from the instantaneous stoppage of the flow (Record, middle P. 39; 4th answer P. 47.)

The valve of the Respondent's faucet is placed above the valve seat, *and closes against the pressure of the water*, thus obviating that objection.

The valve in the Jenkins faucet does not rotate or twist when opened. He declares in his specification that one object of his invention is to prevent this.

Respondent's valve does rotate or twist.

The spring in the Jenkins faucet is placed below the valve in a receptacle made for that purpose. It requires a projection, *Q*, upon the bottom of the valve to retain it in operative position, and it co-operates with the pressure of the water to close the valve.

The spring in Respondent's faucet surrounds the valve stem, and is located above the valve, bears directly upon it, requiring no extra piece or peculiar formation of the valve to keep it in operative position, *and it, and it alone*, closes the valve *against* the pressure of the water.

Finally the Jenkins faucet requires a separate chamber, *C*, for the valve and its spring.

The Respondent faucet requires and has nothing of the kind, the valve, the spring, and the means of raising the valve, being all located within the body of the faucet.

It is clear therefore that the valve stem, the valve, and the spring, (which it must be conceded Respondent had a right to use in common with the public at-large), *and which are all the elements he does use*, are by no means combined in the same manner as in the Jenkins Patent. Not only that, but the Respondent's combination is directly opposed in its nature, to "the nature of my [Jenkins] invention," as set forth in Jenkins' specification.

RECAPITULATION.

It therefore appears that the Respondent's faucet does not employ:

1*st*. *The screw-follower* H *of the Jenkins Patent.*

2*nd*. *The valve "substantially as set forth" therein, and to which Jenkins is confined by reasons of the State of the Art.*

3*rd*. *The parts are not combined as in the Jenkins Patent.*

FOURTH.

It is shown in evidence that about 1854, one Frederick H. Bartholomew, in the City of New York, began to make, and thereafter for many years continued to make and sell into public use, self-closing faucets, constructed as follows: See Defendant's Exhibits, "Waldron," and Nos. 4, 5 and 6.

On the cap of the faucet was a double V-shaped incline. Attached to and forming part of the handle was a wedge-shaped rider fitting into said double incline on the cap, and so arranged that when the handle was turned *in either direction* the rider would ascend the incline and lift the handle. Rigidly attached to the handle was the valve stem, which was in rigid connection with the valve. A spiral spring embraced the valve stem, one end bearing on the valve and the other upon the cap.

These faucets operated as follows:

As the handle was turned *in either direction*, the handle, valve stem, and valve, were raised by the riders ascending the double incline, and the spiral spring was compressed. Thus the valve was *opened with the pressure of the water*. Upon releasing the handle the spiral spring *closed the valve against the pressure of the water*.

Defendant's Exhibits, "Exhibit Waldron" and Nos. 4, 5, and 6, are original samples of these Bartholomew self-closing faucets.

WE FIND THEREFORE IN THESE BARTHOLOMEW SELF-CLOSING FAUCETS MADE AND SOLD AS SUCH INTO PUBLIC USE FROM 1854, EVERY ELEMENT OF THE RESPONDENT'S FAUCET COMBINED IN THE SAME WAY, AND OPERATING IN THE SAME WAY, AND PRODUCING THE SAME RESULT. BOTH BY TURNING THE HANDLE EITHER WAY, OPEN A RIGIDLY CONNECTED VALVE AGAINST A SPIRAL SPRING AND WITH THE PRESSURE OF WATER. BOTH, ON RELEASING THE HANDLE ARE CLOSED BY THE REACTION OF THE SPRING, AGAINST THE PRESSURE OF WATER.

THE ONLY DIFFERENCE BETWEEN BARTHOLOMEW'S AND RESPONDENT'S FAUCETS, IS, THAT THE RESPONDENT HAS MOVED BARTHOLOMEW'S DOUBLE INCLINE AND RIDER INTO THE BODY OF THE FAUCET, SO AS TO IMPROVE THE APPEARANCE OF THE FAUCET AND GAIN THE ADVANTAGE OF FLOWING WATER TO LUBRICATE THE WORKING PARTS.

It only remains then to consider if this testimony be reliable.

It rests on the credibility of DAVID MORRISON, LEONARD WASSUNG, and ALEXANDER WALDRON.

None of these witnesses are in any manner connected with the Respondent, but on the contrary, are all rivals in trade. Nor are they unknown in the community where they reside. Each is at the head of a large and independent business. David Morrison entered the late war as a Captain, was repeatedly wounded, and rose by his eminent soldierly qualities step by step to the rank of Brigadier-General. Alexander Waldron is one of the firm of Bartholomew & Company, the successors of F. H. Bartholomew, who made and sold

these Bartholomew faucets, and from him directly the Respondent received them. Is it credible that these gentlemen should perjure themselves at all, much less in a matter in which they have no earthly interest, and in which their testimony would only aid a trade rival?

General Morrison testifies (P. 43 et seq. of Record) that he was Bartholomew's foreman. Has been a manufacturer of faucets and plumbers' goods on his own account since 1856. B. made Defendant's Exhibit 4 about 1854, (P. 45,) and sold into public use when perfected in the form of Defendant's Exhibit 6. Thinks it likely that he himself made Defendant's Exhibit 4. It was known to the trade as "Bartholomew's Self-closing Cock." *B. also made and sold into public use self-closing faucets in which a screw on the cap and a screw on the stem worked in opposition to a spiral spring* (P. 46). The only difference between those faucets and the screw follower H, as shown in the Jenkins Patent, was that Jenkins has a square thread and B's. had a round thread. The screw in the cap of B's. was the same otherwise, and so was the spindle (valve stem). The witness also made and sold them himself, and had them in the sink of his shop on exhibition to customers "for five or six years, maybe more, probably ten "years altogether." It was before the war. Has made faucets like Defendant's Exhibit 6, from before the war up to the present time on orders, (P. 49) up to 1867 for Mr. Bartholomew, since then for his own trade.

Leonard Wassung confirms this. He was in Bartholomew's employ 23 years (P. 54 of Record). He thinks he made Defendant's Exhibit No. 4. The fact that General Morrison thinks that he, Morrison, made this exhibit, would seem to prove pretty conclusively that at least more than one like it was made. Made them from 1852 to 1856, perhaps a little earlier or later, (P. 55) and continued to make them whenever they got an order. They were sold into public use, some in the form of Defendant's Exhibit No. 6, and some like Defendant's Exhibit No. 5. Made eighteen at one

time to fill an order; thinks he made Defendant's Exhibit No. 5. *B. also made self-closing faucets in which the valve was opened by the action of a screw cut upon the stem and a thread tapped in the cap*, but the thread was not as coarse as Jenkins' Cock, 3rd form. Made them from 1852 to 1856 and afterward. Remembers being sent to repair some of those with the V shaped incline in a lodging-house on corner Broadway and Fourth Street in New York City. (If any doubt is felt as to this testimony, the Court is respectfully requested to read the cross-examination of Wassung beginning middle of P. 55 of the Record and ending on P. 57.)

ALEXANDER WALDRON has been connected with the firm of F. H. Bartholomew and its successors since 1851 or 1852 to the present time. Has had more or less self-closing faucets like Defendant's Exhibits 4, 5 and 6 made by F. H. Bartholomew in his shop from 1851 or 1852 up to the present time, (P. 62 of Record). He furnished Respondent with these Exhibits. The patterns are still in his shop.

Respondent's Counsel was recently for the first time informed that testimony referring to these Bartholomew faucets was introduced before and considered by Judge Shipman in the Circuit for the District of Connecticutt, in a suit Zane against Peck Bros. & Co.

Except as stated in the opinion he does not know who testified, what questions were asked on either direct or cross-examination, or what answers were made. None of the papers or proceedings in that suit has he ever seen, nor has he any knowledge whatever even that such a suit was ever brought or heard, beyond an unofficial pamphlet containing what purports to be an opinion of Judge Shipman therein.

It would appear that this testimony was urged to anticipate and invalidate the Jenkins Patent. The opinion admits that Bartholomew made such faucets "and sold a few." "The point in this part of the case "(to quote from that opinion) is, whether he made the "faucet with a cap having the sharp and deep V which "is shown by General Morrison and testified to by "Waldron and others. * * * * The testimony of

"all these witnesses is merely from recollection of the "shape of a few articles made from twenty-three to "twenty-five years before they testified, and is not sufficient to destroy the presumption of a patent upon "an article which has been long and extensively used. "*It may be that the present recollection of these witnesses* "*in regard to a comparatively insignificant part of their* "*work between* 1853 *and* 1856 *is accurate;* BUT, IN THE "ABSENCE OF SAECIMENS OF THE WORK MADE AT THAT "TIME *such testimony is an unsafe foundation upon which* "*to rest a finding that the patent had been anticipated.*"

It will be noted that "*specimens of the work made at that time,*" ARE NOT WANTING in this suit at bar.

These Bartholomew faucets are not introduced in this suit to anticipate the Jenkins Patent, nor does the Defendant's Counsel see how they could have that effect, no matter how conclusively proved. They can but limit the scope of Jenkins' invention to accord with the statement of invention he embodied in his specification, and with that statement these Exhibits do not conflict.

Judge Shipman says "a few" were sold. We do not know what in his mind constitutes a few—it is a comparative term, and what his standard of comparison was we do not know. Our evidence shows, however, that Wassing (P. 55 of Record) made 18 at one time to fill an order; that besides some were put in buildings corner Broadway and Fourth street, New York City.

Waldron, Bartholomew's successor, says that they have had (P. 62) more or less of them in the shop from 1851 or 1852 up to the present time.

But it is useless trying to answer or analyze testimony you have never seen or heard. *Against its admission into this appeal the Respondent respectfully protests.*

Appellant insists that Defendant's Exhibits 3, 4, 5 and 6 be regarded as abandoned experiments.

It is clear they were sold to the public into actual use for a series of years.

"It is now too well settled to admit of controversy that an abandonment of the use of a mechanical structure which has been brought to a degree of maturity,

and whose operative merit has been demonstrated by trial, will inure to the benefit of the public, and not that even of an original but subsequent inventor."

Pickering v. McCullough et al., 13 O. G., p. 818, and numerous cases there cited.

IT IS THEN BEYOND DISPUTE THAT RESPONDENT IN HIS PATENT AND FAUCET USES IDENTICALLY THE SAME MEANS TO ACCOMPLISH IDENTICALLY THE SAME PURPOSE THAT BARTHOLOMEW USED AND SOLD CONTINUOUSLY INTO PUBLIC USE FOR MANY YEARS PRIOR TO JENKINS PATENT. THE DOUBLE INCLINE AND RIDER, THE SPRING AND THE VALVE ARE IDENTICAL, AND THEY COOPERATE IN IDENTICALLY THE SAME WAY. THE ONLY DIFFERENCE IS THAT CLAIMED IN RESPONDENT'S PATENT, *i. e.*, THE DOUBLE INCLINE AND RIDERS ARE PLACED WITHIN THE BODY OF THE FAUCET, SO AS TO IMPROVE ITS APPEARANCE AND GAIN THE ADVANTAGE OF THE FLOWING WATER AS A LUBRICATOR. WE UTTERLY FAIL TO SEE HOW THIS CAN INFRINGE THE JENKINS PATENT.

FIFTH.

It conclusively appears as a matter of fact that Frederick Bartholomew made and sold into public use continuously between the years 1846 and 1856 hydrants, of which Respondent's Exhibit 3 is one; that he had them on exhibition at the New York Crystal Palace; that they were known to the trade as "Bartholomew's Self-closing Hydrants" (Record, P. 44); were made from 1849 to 1856, and are still made; "when an order came in for a dozen we would make them" (Wassung's testimony, P. 54 of Record). Boyd put them in public use, and states where (P. 58 *Ibid*). Waldron swears (P. 61) they were sold off and on for five or six years, were exhibited in The New York Crystal Palace.

It is not disputed that the screw follower, *H*, of Jenkins' faucet is found in this self-closing hydrant, though the valve is ours and not Jenkins'. Therefore

if their first claim is for the screw follower, *H*, in combination with *any form* of valve of a self-closing faucet, the Claim is anticipated; if it is only for the combination with *the specific valve* described, then we do not infringe, for we use the plain old compression valve, in use before Jenkins' grandfather was born.

Complainant's Counsel seeks to wriggle out from this dilemma by a lot of talk about "the angle of repose," and that though this hydrant worked, it was by reason of the length of the valve stem; that in a faucet it would not be practicable; and he introduces his Exhibit F to reinforce his position.

All this is met by simply laying the original hydrant on its side, when the weight of the valve stem beco nes a hindrance rather than an advantage. Then on operating the hydrant it will (if tolerably clean and free from dirt, as it would be if in daily or even occasional use) be found to close automatically and quite as well as when the hydrant is perpendicular. It will also be found to close whether the valve is completely or only partially raised. All this was done as described before the Court at final hearing, and worked perfectly. *But it must be borne in mind that the spring in this hydrant is the original spring. It is broken at about one-third of its length, and, of course, does not work as well as if the spring were whole—much less if the spring had its original elasticity as well.*

It is, however, a plain matter of common sense that the angle of repose depends as much on the friction of the surfaces as on the pitch of the incline. If the surfaces were soldered together they would not move at all. It is also beyond dispute that a device of this kind, in which the surfaces were left rough (like Exhibit F), or covered with gummed oil, or which had remained unused and exposed to the dust for a length of time, would be inoperative, when in actual use, and with ordinary care, they would work perfectly.

It requires no more invention to increase the angle of the incline, if found insufficient, than every small boy exhibits in selecting a hill steep enough to give his sled motion in Winter, and the same is true as to in-

creasing the strength of the spring should more strength be required.

Again, we find consonant with Judge Shipman's opinion, Zane v. Peck Bros. & Co. (12 O. G., 519), *that their screw follower is public property; that Jenkins' invention consists in his peculiar valve and its combination with the screw follower by the swivel, P;* and that since these features are not only wanting, but altogether unrepresented in Respondent's faucet, he does not infringe.

SIXTH.

The essence of the Jenkins patent, as he himself declares (P. 13 of Record), is the means by which the screw follower, *H*, co-operates with the valve, that is, the swivel, *P*.

Now, in claiming a *Combination*, is he not bound, as matter of law, to include in his claim every co-operative element of that Combination? Can he take one element from each end of the chain and omit essential intermediate links?

> "The claims in a patent must specify what
> "the patentee claims as his invention, and set
> "forth with clearness and precision the thing
> "which no one but himself can use or enjoy."
>
> Merrit v. Yeomans, 9 O. G., 970, U. S. Sup. Ct., 1876.
>
> *I bid*, 94 U. S., 573.
>
> To same effect citing foregoing case.
>
> Kingston B. Co. v. P. Iron Co., 12 O. G., 980, Oct., 1877.

> "All the parts or devices of the combination
> "claimed must co-act to produce a given result,
> "in order to form a legitimate combination, and
> "if one does not co-act with the others, the pat-
> "ent is void for want of unity and co-operation
> "of its several parts."
>
> Swift v. Whisen, 3 Fish, 343 (see p. 357).

"There must be a new result produced *by their* "*union.*"

Rickendorfer v. Faber, 92 U. S., 347.

I bid, 12 Blatch., 68.

See also 5 O. G., 697; 10 O. G., 71 (see p. 73, 2d Col.)

"That a useful result proceed from the combination "is essential."

Bliss v. Brooklyn, 3 O. G., 269 (see p. 270).

"A new combination if it produces new and useful "results is patentable. But the results must be the "product of the combination, and not a mere aggre- "gation of several parts, each the complete product of "one of the combined elements. No one by bringing "together several old devices, without producing a new "and useful result, *the joint product of the ele-* "*ments of the combination* and something more than "an aggregation of old results, can acquire a right to "prevent others from using the same devices, either "singly or in other combinations."

Hailes v. Van Wormer, 20 Wall., 353 (p. 368).

"A novel result must flow from the *joint operation* "of the devices."

I bid, p. 373.

"In a patentable combination of old elements all "the constituents must so enter into it, as that each "qualifies every other. * * * * It must form "either a new machine of a distinct character and func- "tion, or produce a result due to the joint and co-op- "erating action of all the elements. * * * * * "Otherwise it is only a mechanical juxtaposition and "not a vital union."

Pickering v. McCullough, Supreme Ct., 1881; 21 O. G., 75.

McKesson v. Charndick, 21 O. G., 137.

Edgarton v. F. & B. Maf'g. Co., 21 O. G., 261.

THE SCREW FOLLOWER H CANNOT CO-OPERATE WITH OR ACT UPON THE VALVE IN JENKINS' PATENT IN ANY WAY WHATEVER, EXCEPT THROUGH THE SWIVEL P. WITHOUT THIS PART, THE VALVE MIGHT JUST AS WELL BE IN LABRADOR, AND THE SCREW FOLLOWER IN CEYLON.

Therefore one of two things necessarily follows:

First—The first claim of the Jenkins' patent (to which the alleged infringement is confined) is fatally defective—or,

Second—The first claim must be construed as though the swivel P was included.

Then it follows we do not infringe, since then a combination of three elements would be shown, at least one of which, the swivel P, was entirely wanting, and unrepresented in Respondent's Patent and faucet, since Respondent's valve does twist when operated, exactly what Jenkins says it is the purpose of the swivel P to prevent.

All of which is respectfully submitted.

HENRY P. WELLS,

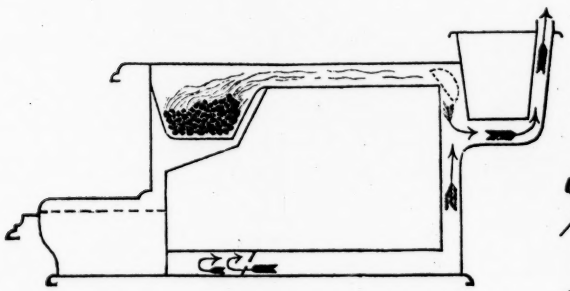
Of Counsel for Respondent,

24 Park Place,

New York City.

NATION'S RESERVOIR COOKING STOVE.

Drawing made November 8th, 1872.



COMPLAINANT'S EXHIBIT L.

Nos. 180 & 181
Bussey et al
v.
Excelsior Manufg Co.
} Page 373

L. L. WALBRIDGE,
Special Examiner.

WITNESSES:
H. E. CLOW.

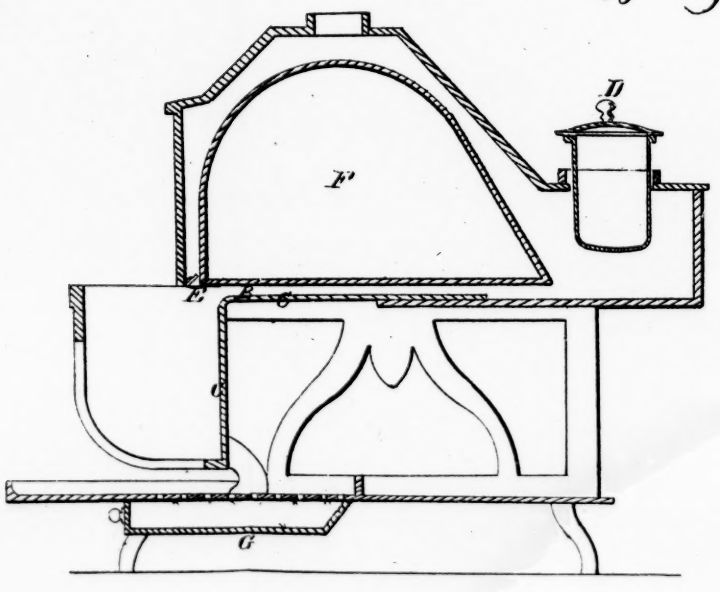
Sheet 2 2 Sheets

Davis & Lord,

Cooking Stove,

Patented Nov. 23, 1829.

Nos. 180 & 181
Bussey et al
v.
Excelsior Manuf'g Co.
} Page 403



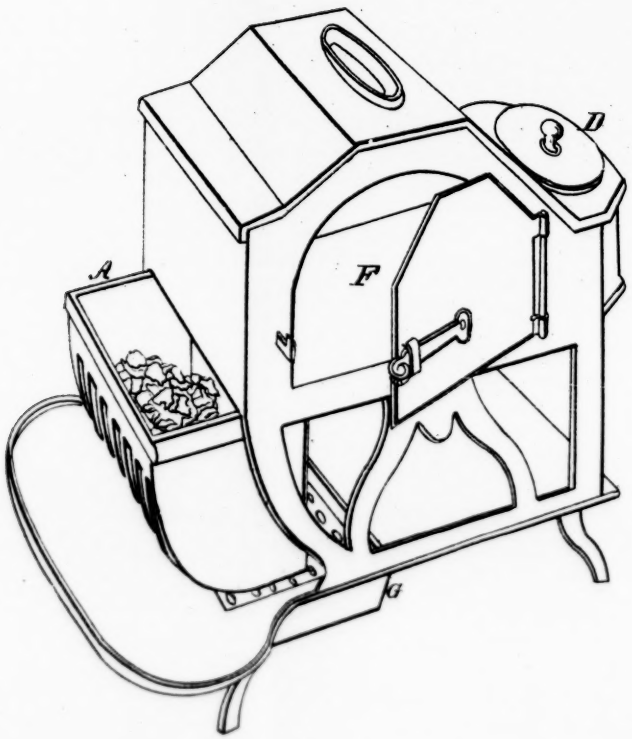
Sheet 1. 2 Sheets

Davis & Lord,

Cooking Stove,

Patented Nov. 23, 1829.

Nos. 180 & 181
Bussey et al
v.
Excelsior Manuf'g Co.
} Judge Hoi



415 Nos. 180 & 181
Bussey et al page 411
Excelsior Manuf'g Co.

J. Barron,

3 Sheets. Sheet 3.

Cook Stove.

No. 422.

Patented Oct. 6, 1837.

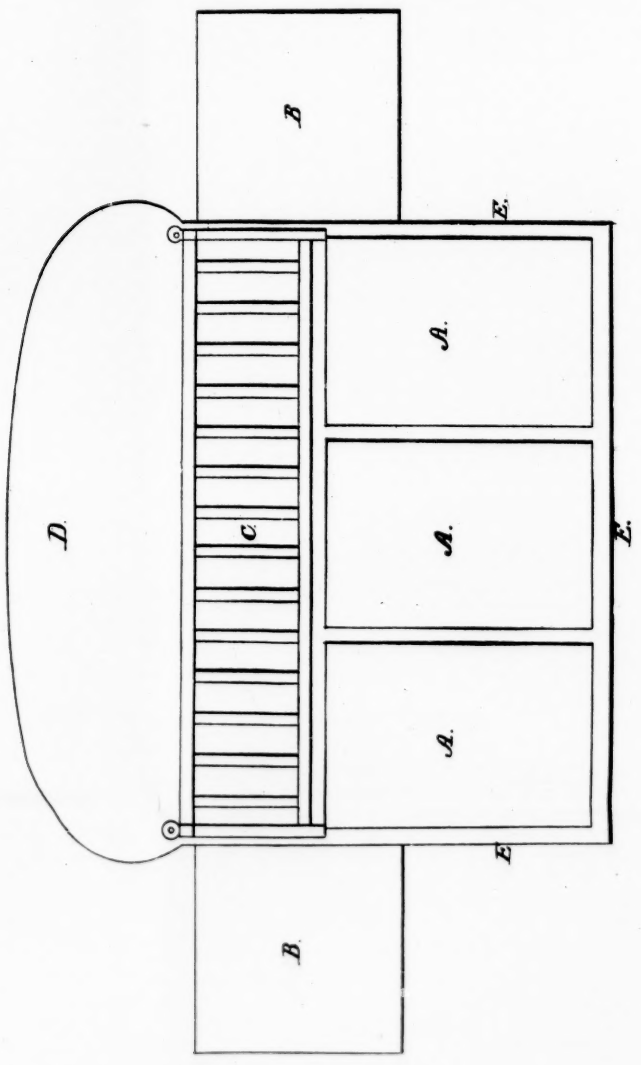


Fig. 3.

Nos. 180 + 181
Buesey et al
v.
Excelsior Manuf'g Co.

Page 409

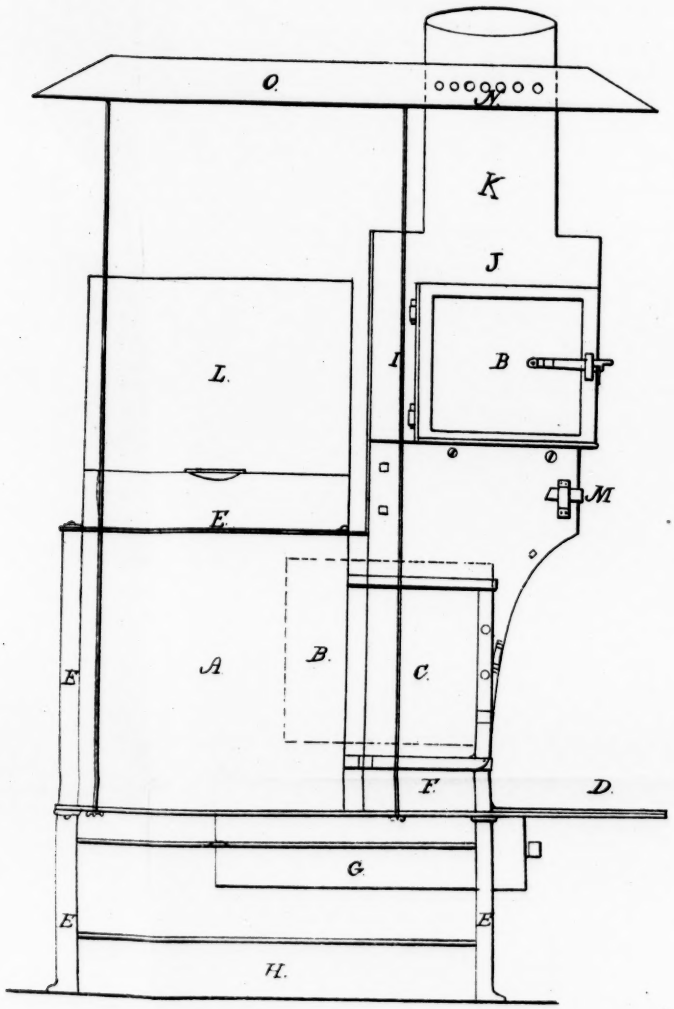
3. Sheets. Sheet 2

J. Barron,

Cook Stove.

No. 422. Patented Oct. 6. 1837.

Fig. 2.



J. Barron,

Cook Stove.

No. 422. Patented Oct. 6. 1837.

Nos. 180 + 181
Bussey et al
v.
Excelsior Manuf'g Co.
} page 407.

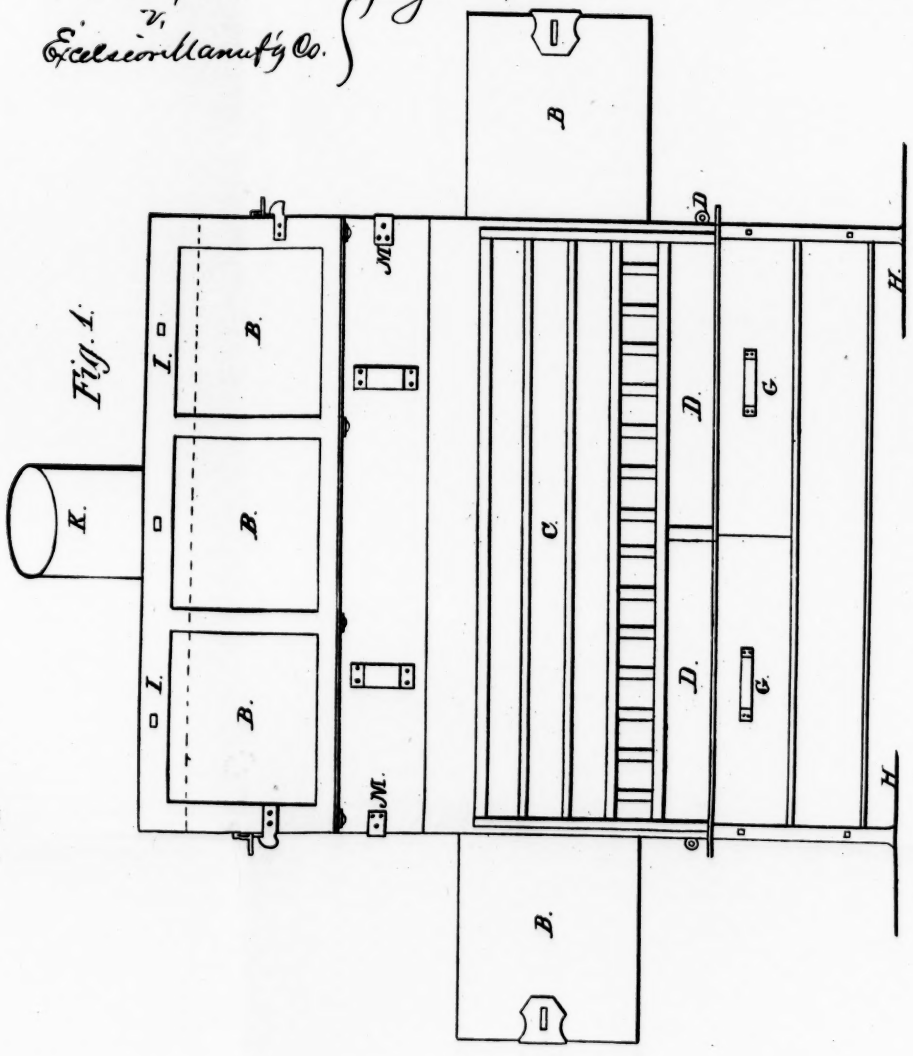


Fig. 1.

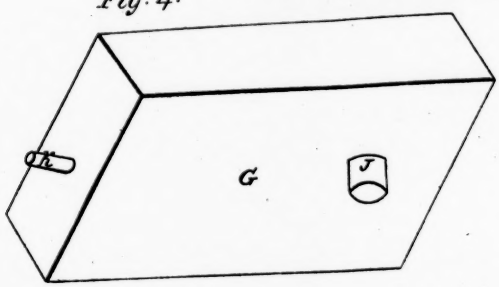
Nos. 180 + 181
Bussey et al pages 415
vs.
Excelsior Manufg Co.

P. Getz.

Reservoir Cooking Stove.

No. 1,469. Patented Jan. 11, 1840.

Fig: 4.



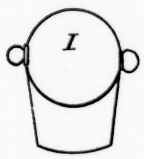


Fig: 2.

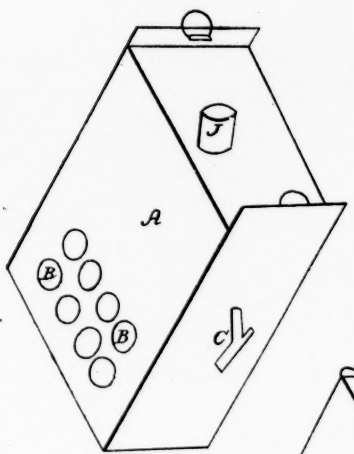


Fig: 3.

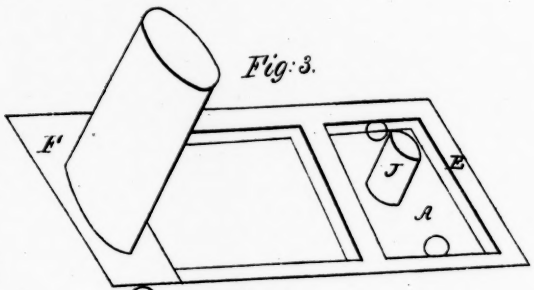
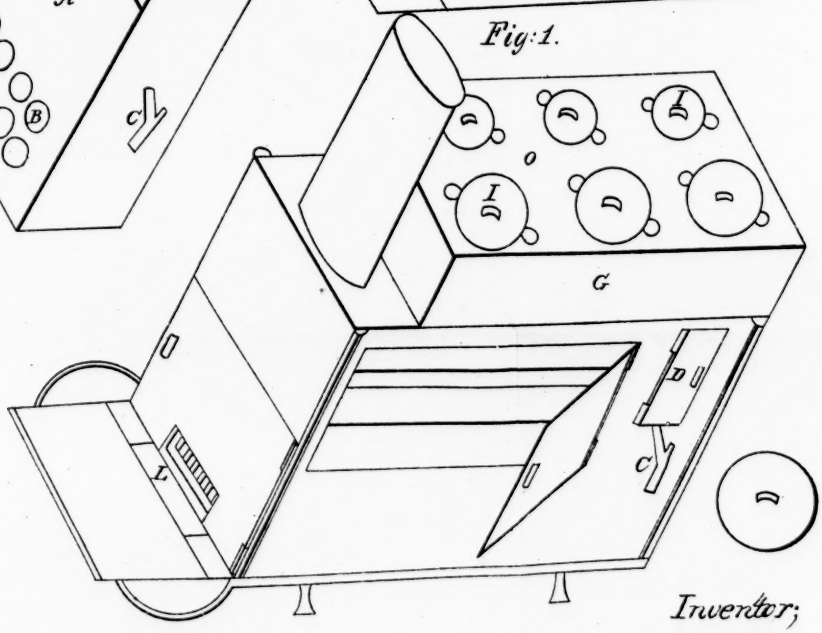


Fig: 1.



Inventor;
Peter Getz

Nos. 180 & 181
Bussey et al
v.
Excelsior Manuf'g Co.

P. P. Stewart.

Cook Stove.

No. 22,681. Patented Jan. 18, 1859.

Fig. 5 B, b

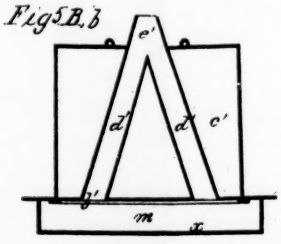


Fig. 6 C, c

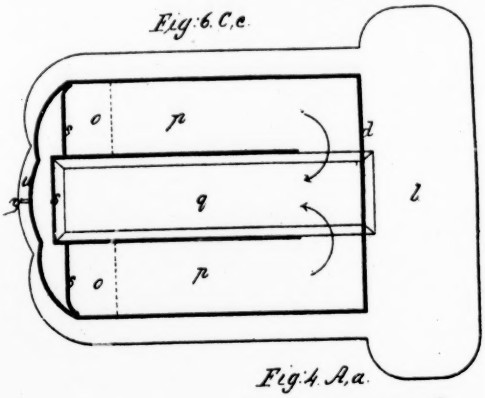


Fig. 1.

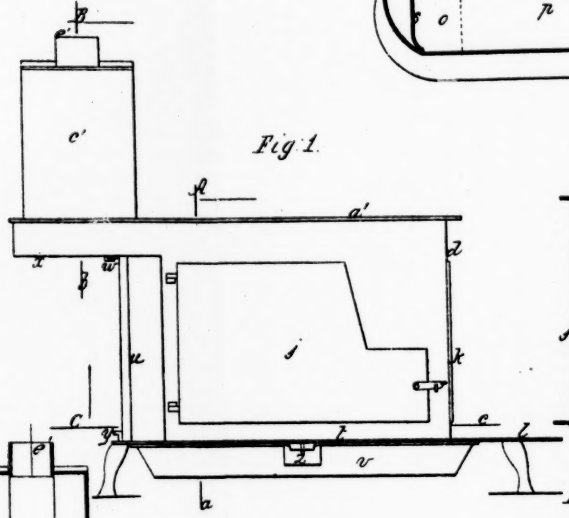


Fig. 4 A, a

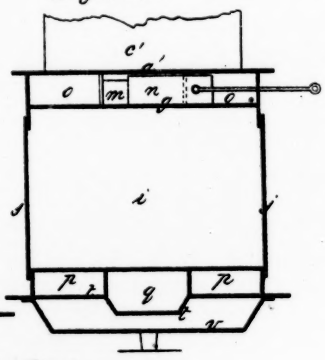


Fig. 3.

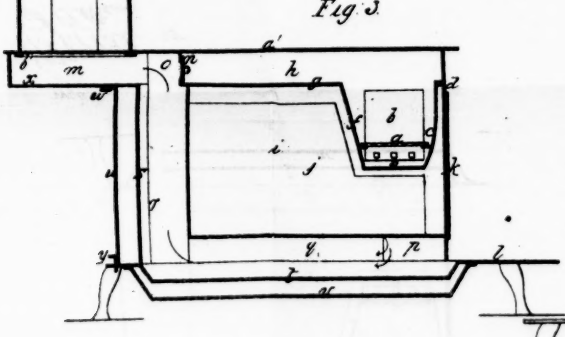
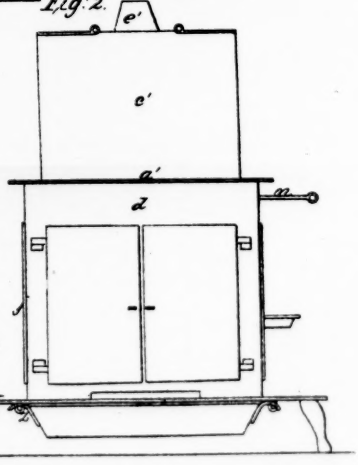


Fig. 2.



Witnesses;
H. M. Walker
D. T. Stewart

Inventor,
P. P. Stewart

Nos. 180 + 181
Bussey et al
v.
Excelsior Manufg Co.

page 431.

S. B. Spaulding

Reservoir Cooking Stove.

No 2,291. Reissued Jun. 19, 1866.

Fig. 1.

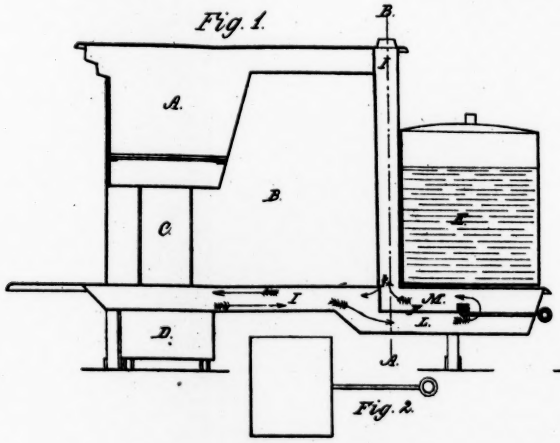
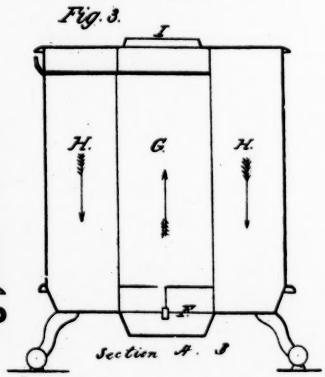


Fig. 2.

Fig. 3.



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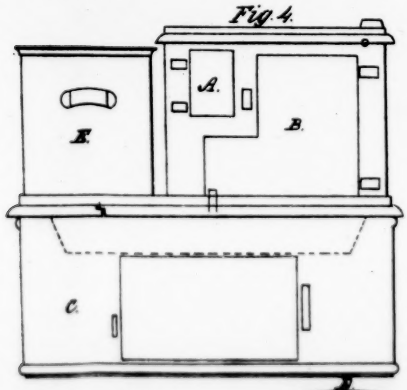

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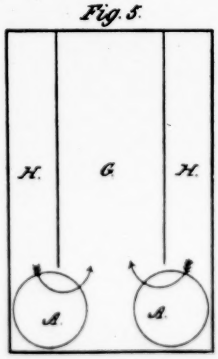

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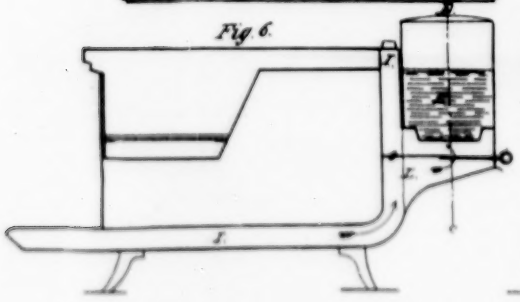

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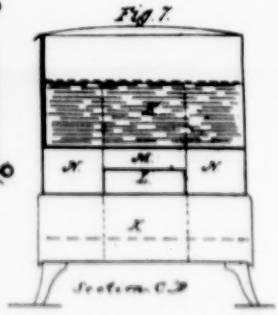

Witnesses.
Henry F. Mayo
[illegible]

Inventor.
Samuel B. Spaulding

E. Bussey.

Cook Stove.

No. 56,488. Patented Jul. 17, 1866.

Nos. 180 & 181
Bussey et al
Excelsior Manuf'g Co.

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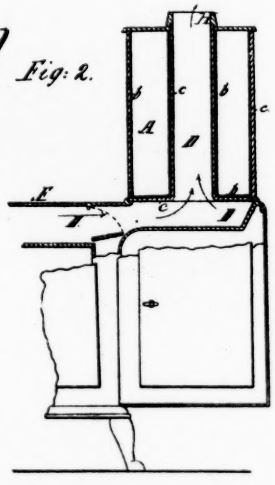
Fig. 2.



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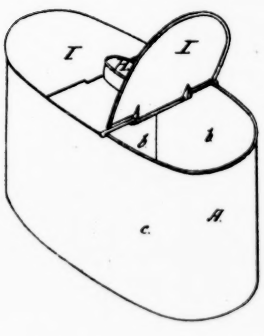

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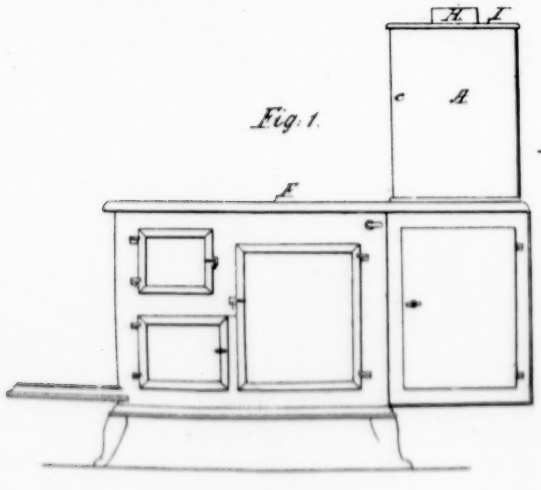

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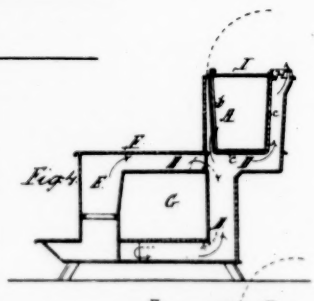

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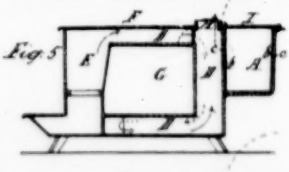

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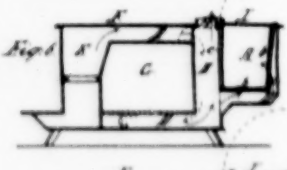

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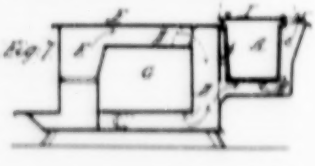

Witnesses
Chas. W. Robinson
Ref. McPhee

Inventor
Osc. Bussey

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Bussey et al
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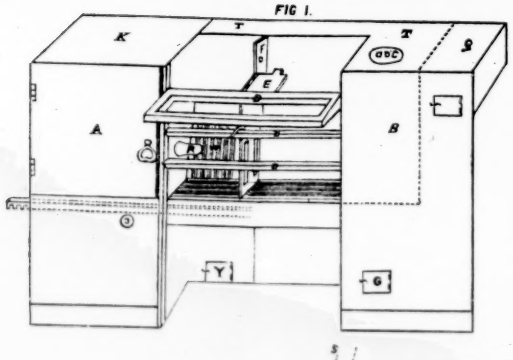
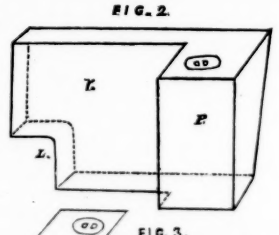
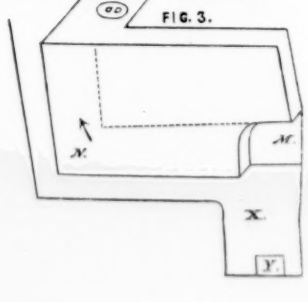
BARLOW'S SPECIFICATION.

A. D. 1816, JULY, 2, No. 4,044.







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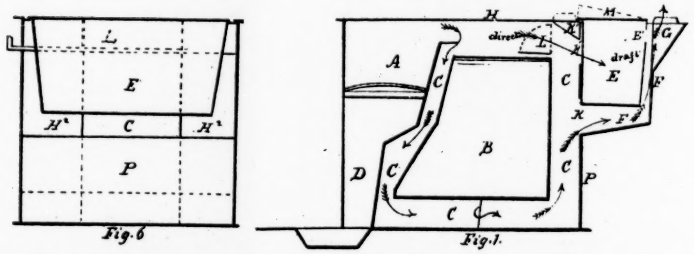
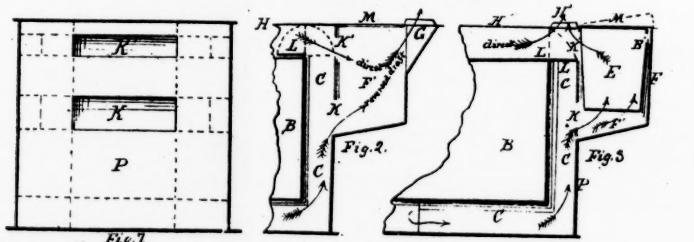
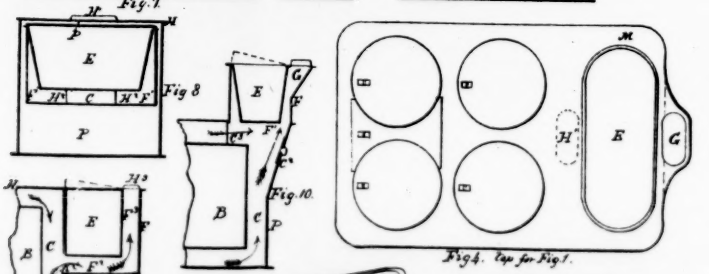
} page 453.

R. M. Hermance.
Reservoir Cooking Stove.
No. 102,462. Patented Apr. 26, 1870.







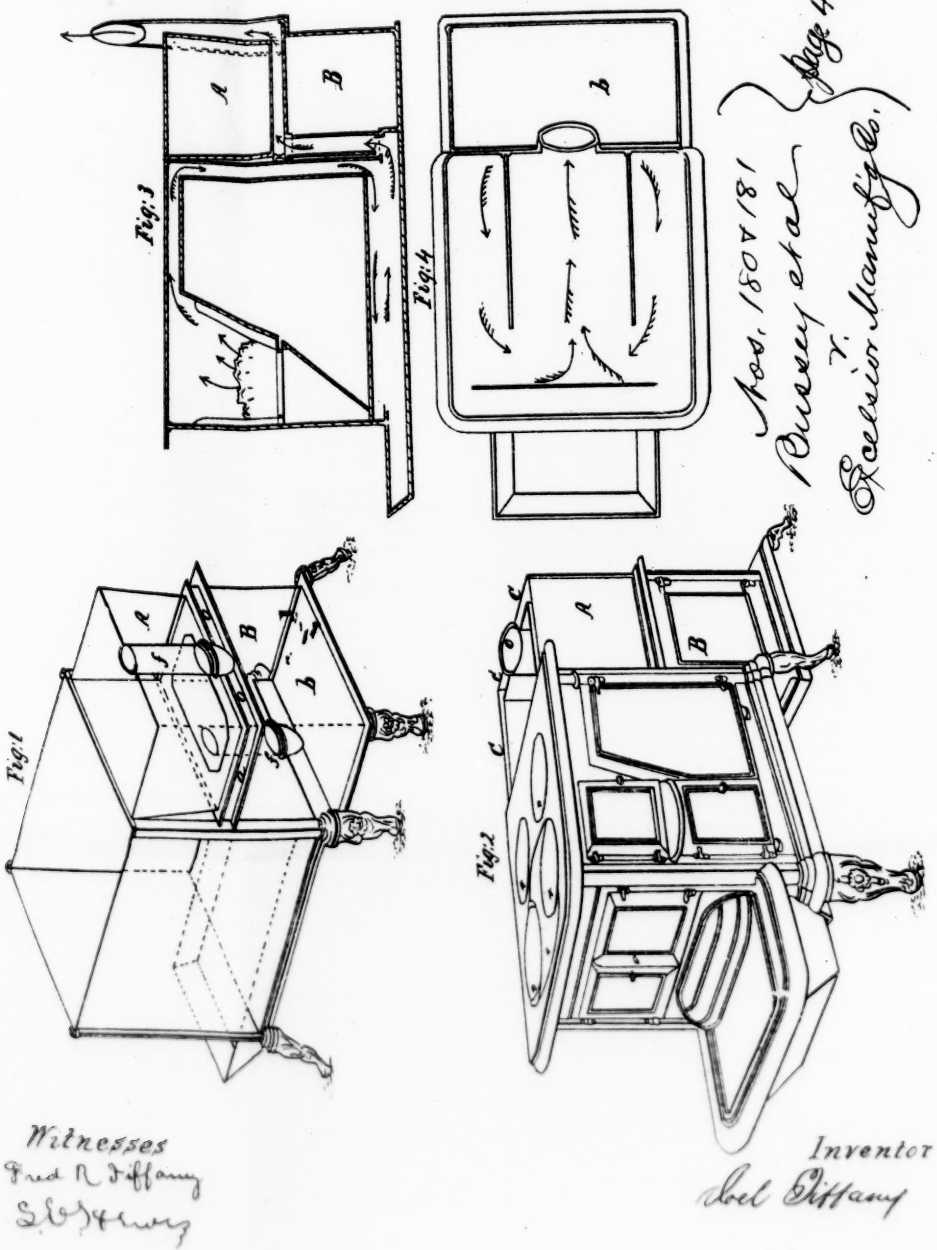
Witnesses
Chas. A. Wilson
Emma Mason

Inventor
Richard M. Hermance
By Wilkinson & Wilkinson

J. Tiffany.

Reservoir Stove.

No. 93,771. Patented Aug. 17, 1869.



Nos. 18041 Bussey et al v. Reliance Manufg Co. Page 459.

Witnesses
Fred R Tiffany
S. Whitney

Inventor
Joel Tiffany

2. Sheets. Sheet 1.

D. E. Paris,

Reservoir Cook Stove.

No. 113556. Patented Apr. 11. 1871.

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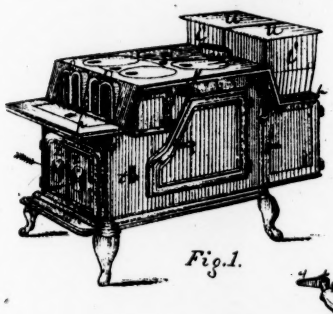
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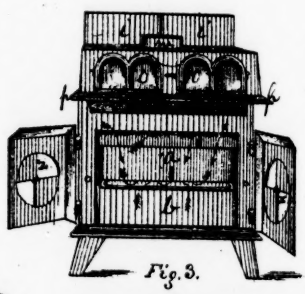
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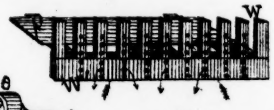
Fig. 10.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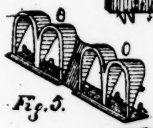
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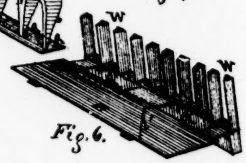
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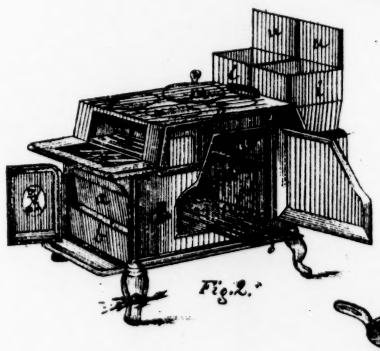
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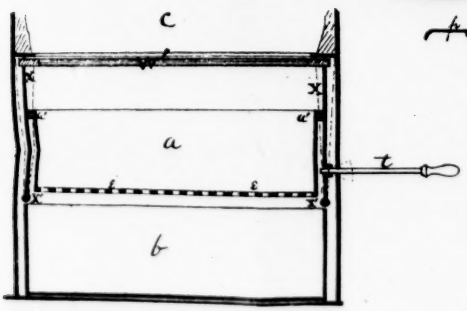
Fig. 9.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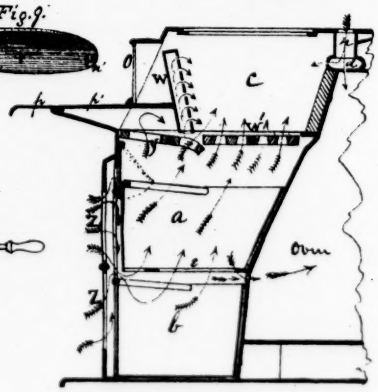


Fig. 7.

Witnesses
Musit E. Paris
Wm. H. Gleason

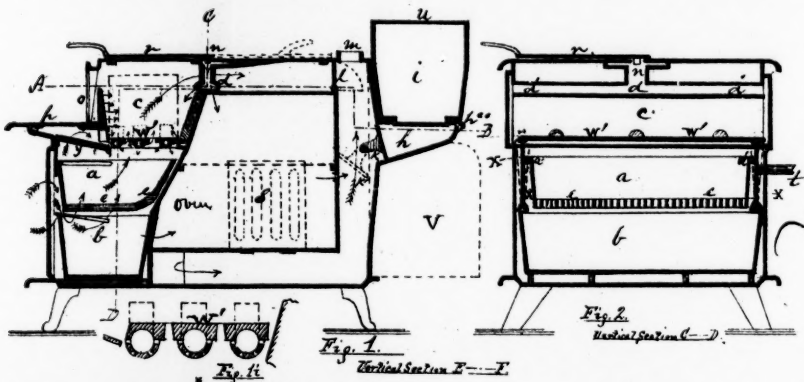
Inventor.
Daniel E. Paris

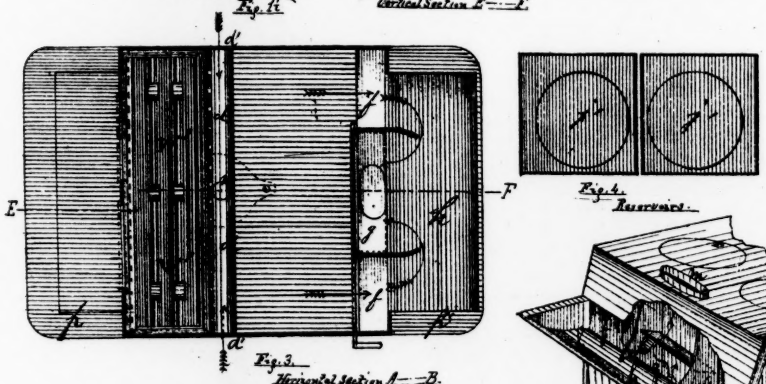
2 Sheets Sheet 2.

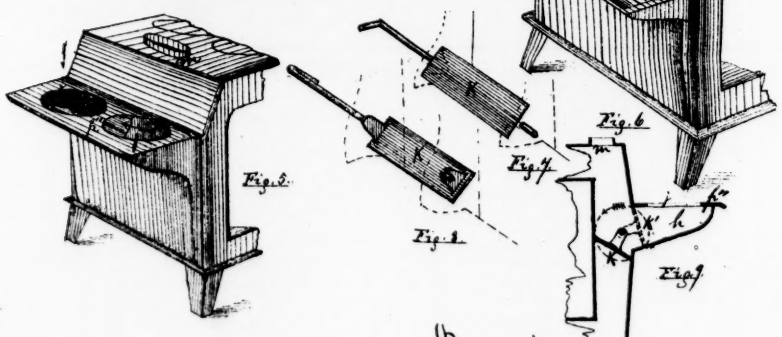
D. E. Paris,

Reservoir Cook Stove.

No. 113556. Patented Apr. 11. 1871.







Witnesses.
Merit E. Paris
Wm. D. Heron

Inventor.
Daniel E. Paris

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Nov. 180 r 181
Brassey Pat.
Reservoir Manufg Co.

Page 180 Sig 10 Left

WILLIAM L. McDOWELL.

Improvement in Cooking-Stoves.

No. 114,838. Patented May 16, 1871.

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Quincy et al
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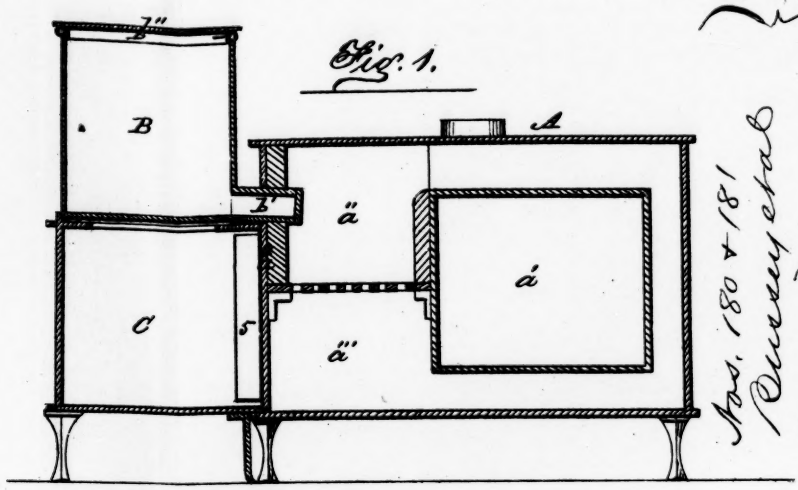
Excelsior Manufg Co.

Fig. 1.



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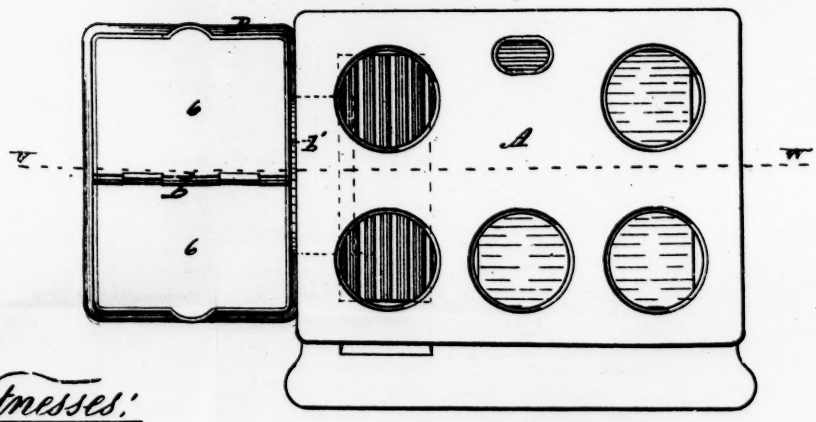

Witnesses:

Benj. Monson

Wm. H. Monson.

Inventor:

Wm. L. McDowell

Jan. Term 1871
Reg. to Right

Sheet 2, 2 Sheets.

W. N. Moore.

Reservoir Cooking Stove.

No. 96,826. Patented Nov. 16, 1869.

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Excelsior Manufg Co.
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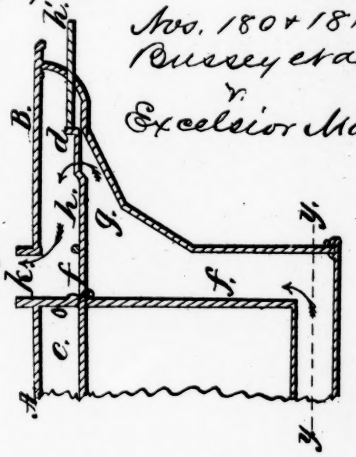
Fig. 4.



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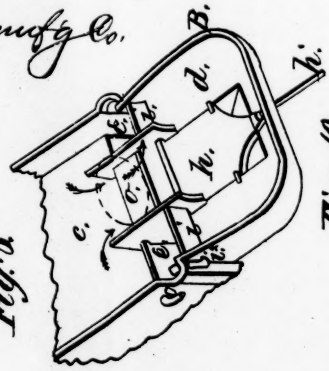

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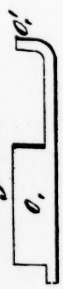

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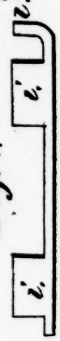

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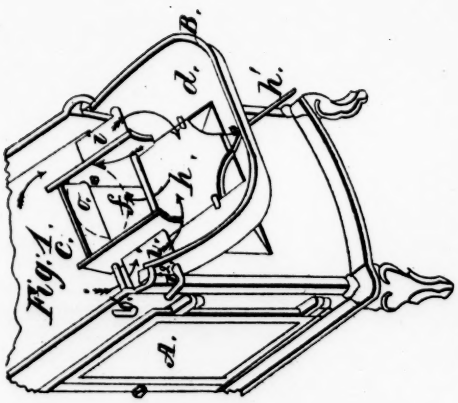

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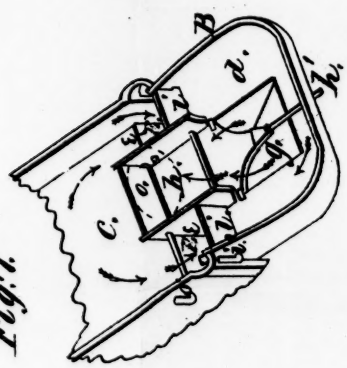

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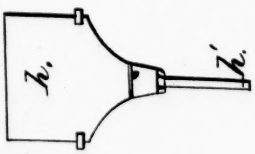

Witnesses.

L. J. Whaley

W. G. Ritch.

Inventor.

W. N. Moore.

Sheet 2, 2 Sheets.

W. N. Moore.

Reservoir Cooking Stove.

No. 96,826. Patented Nov. 16, 1869.

Nos. 180 + 181
Bussey et al
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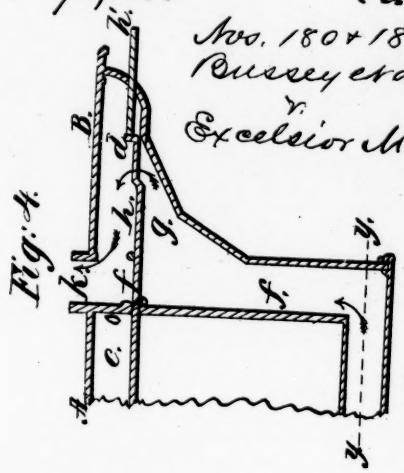
Fig. 4.



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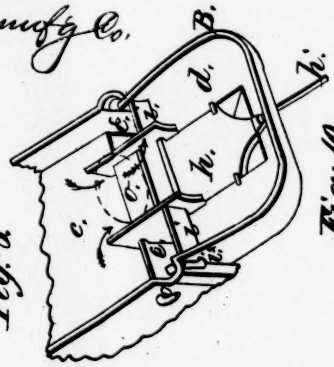

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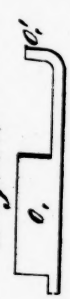

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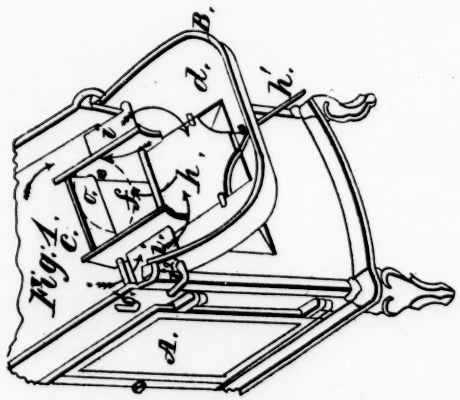

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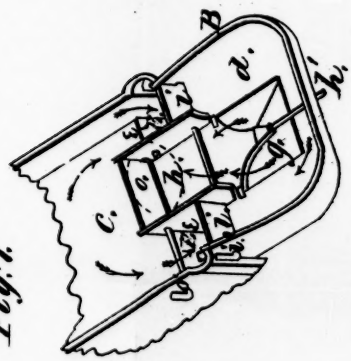

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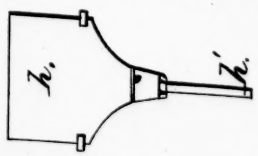
Fig. 8.



Witnesses.

L. J. Whaley

W. G. Ritch.

Inventor.

W. N. Moore.

Sheet 1. 2 Sheets. 481

W. N. Moore.

Reservoir Cooking Stove.

No. 96,826. Patented Nov. 16, 1869.

Fig. 3.

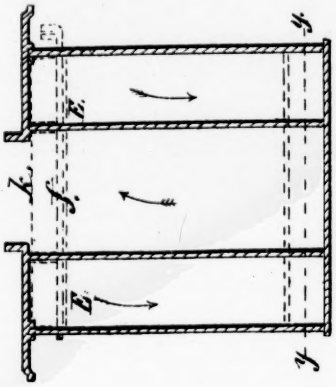


Fig. 5.

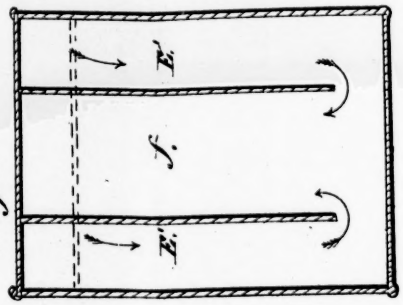
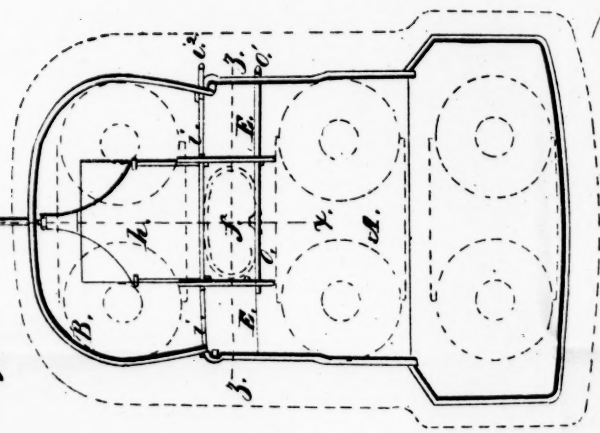


Fig. 2.



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Witnesses.

L. W. Hacey

W. G. Ritch.

Inventor.

W. N. Moore.

Page 156 Big 10 Right

J. R. Hyde,

Stoves,

№ 35,564, Patented June 10, 1862.

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Fig. 3.

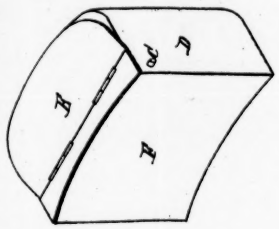
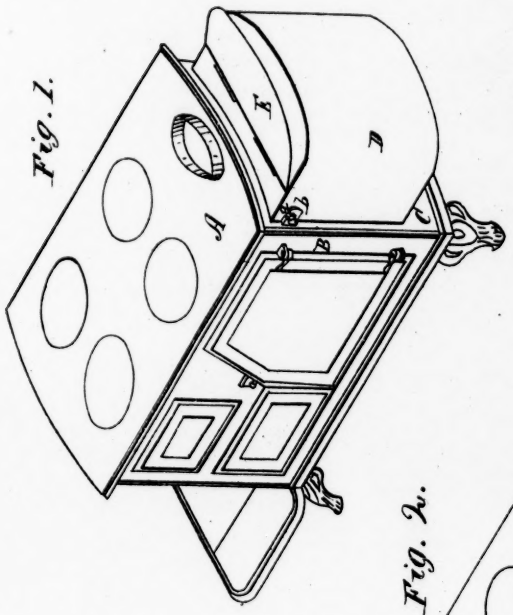


Fig. 1.



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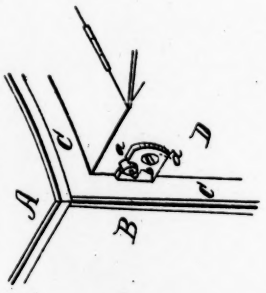

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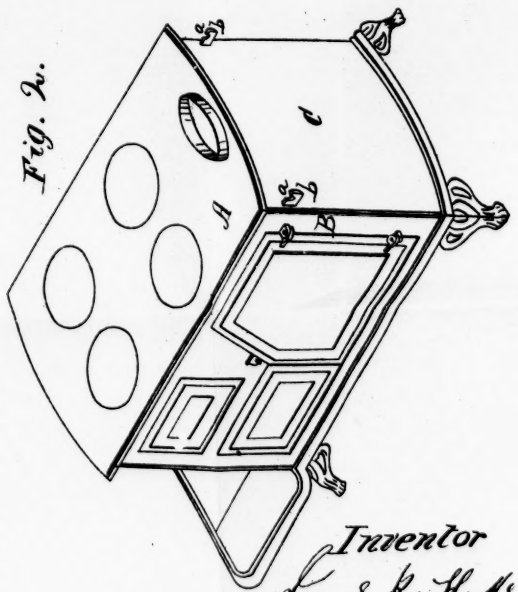


Witnesses
Marcus P. Norton
Wm. L. Warren

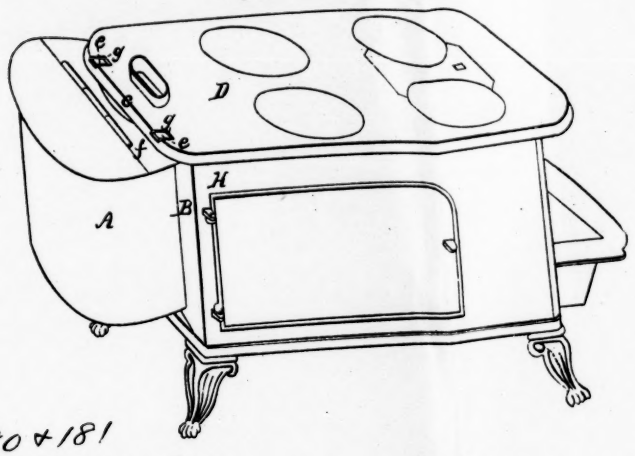
Inventor
James R. Hyde

J. R. Hyde,

Stoves,

No. 37,966, Patented Mar. 24, 1863.

Fig. 1



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page 491.

Fig. 2

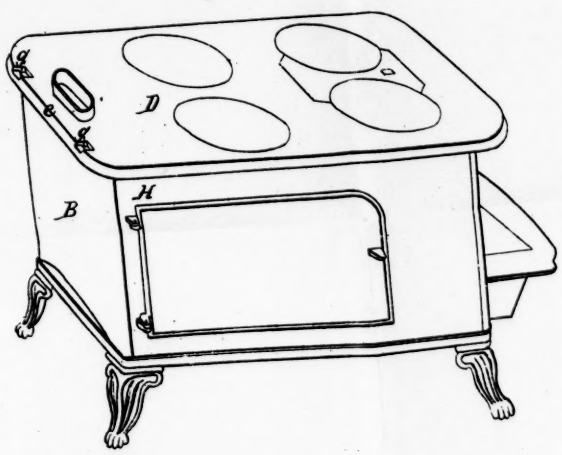
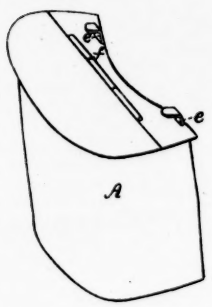


Fig. 3



Witnesses
James Frost
H. E. Paine

Inventor
James R. Hyde

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} Page 499.

C. Slade,

Cooking Store,

№ 457. Patented Nov. 11, 1837.

Fig. 1.

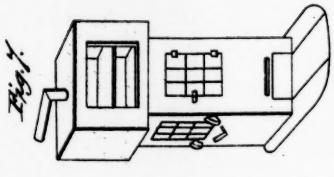
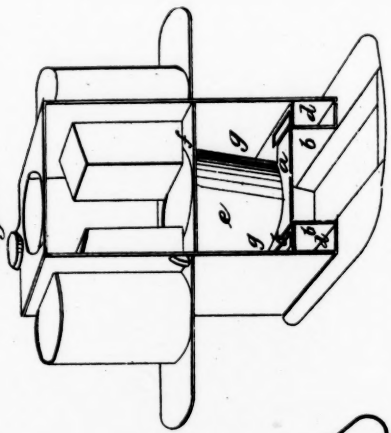


Fig. 1.



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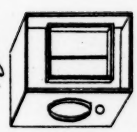


Fig. 4.

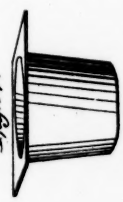


Fig. 2.

Fig. 3.

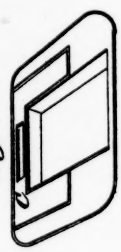


Fig. 5.

Fig. 6.

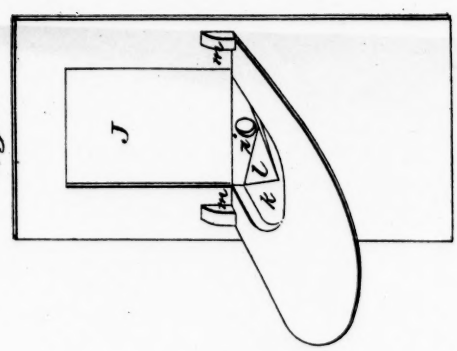
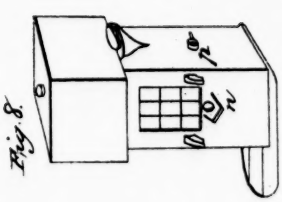


Fig. 8.



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J. H. & T. S. Mitchell,

Reservoir Coal Stove.

No. 98,086. Patented Dec. 21. 1869.

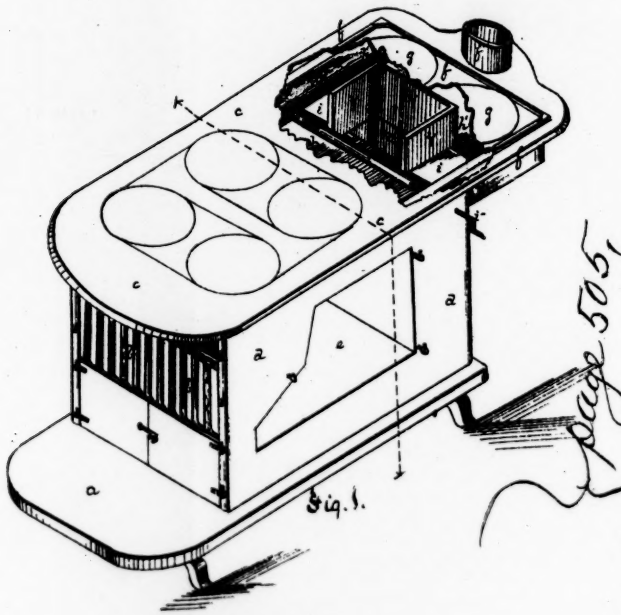

Fig. 1.

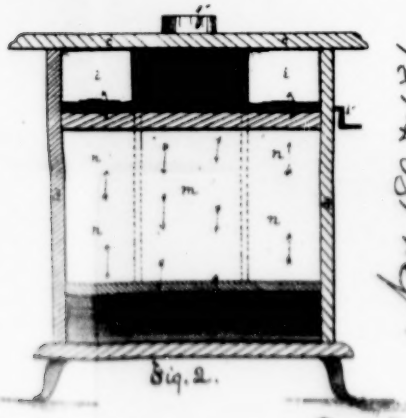

Fig. 2.

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Burnaway et al
v.
Coleman Manuf'g Co.

Witnesses:
Thos. Sherman
R. H. Wrenshall

Inventors:
James H. Mitchell,
Thomas S. Mitchell,
by Bakewell, Johnson,
their Attys.

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Bussey et al
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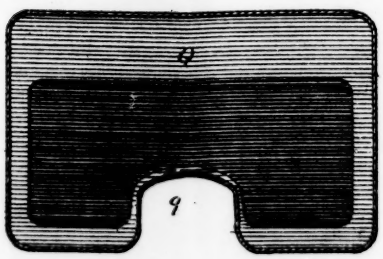
5 Sheets. Sheet 5.
(154.)

Wm. J. Keep.

Improv't in Cooking Stoves.

No. 121,876. Patented Dec. 12, 1871.

Fig. 13.



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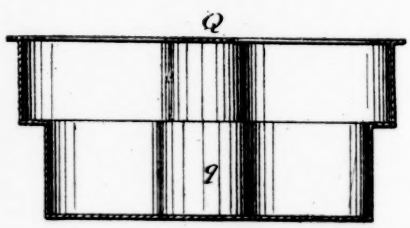

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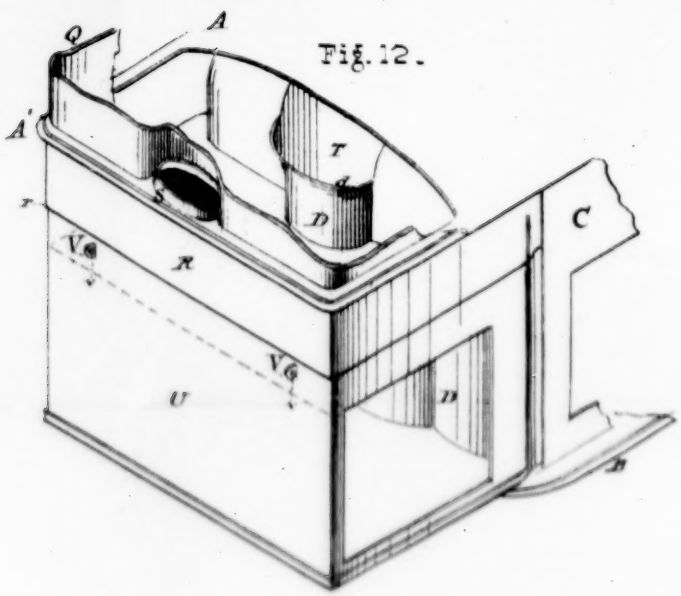

Witnesses.
C. Sedgwick
A. Hoffman

Inventor.
Wm. J. Keep, by
Shindler & Dyer his
Attys.

Nos. 180 & 181
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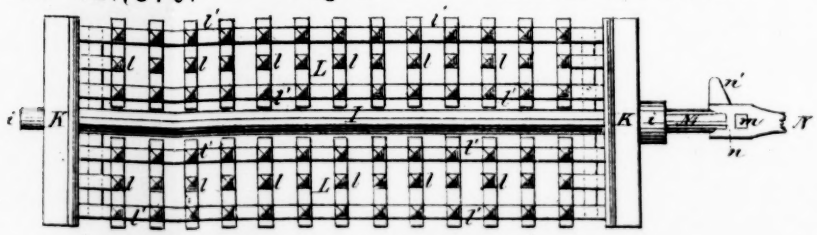
5 Sheets
(154.)

Sheet 4.

Wm. J. Keep.

Improv't in Cooking Stoves.

No 121,876. Fig. 5. Patented Dec. 12, 1871.



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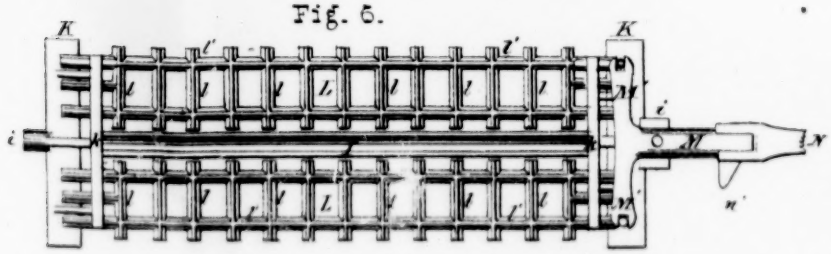

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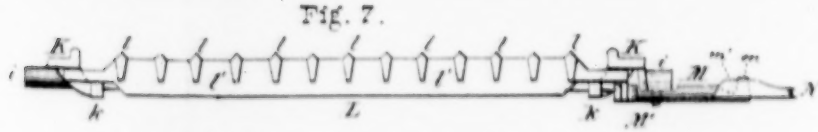

Fig. 8.

Fig. 9.

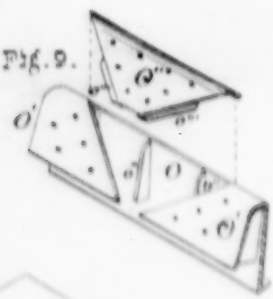

Fig. 10.

Fig. 11.

Witnesses.

Inventor.
Wm. J. Keep by
Russell & Bye their
Attys

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3 Sheets.
(154.)

Sheet 3.

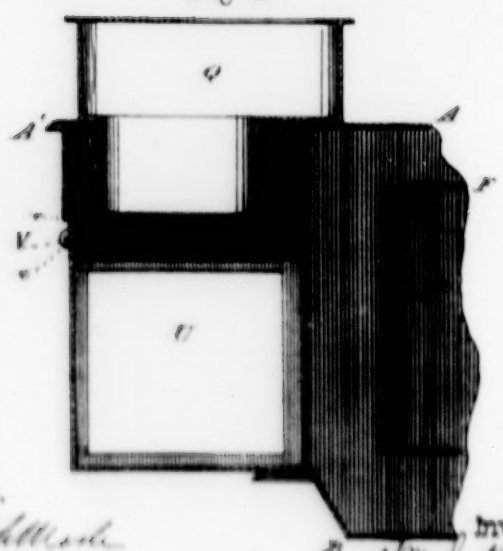
Wm. J. Keep.

Improv't in Cooking Stoves.

No. 121,876. Patented Dec. 12, 1871.

Fig. 3.

Fig. 4.



Witnesses.

Inventor.

Nos. 180 & 181
Bussey et al
v.
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5 Sheets.
(154.)

Sheet 2.

Wm. J. Keep.

Improv't. in Cooking Stoves.

No. 121,876. Patented Dec. 12, 1871.

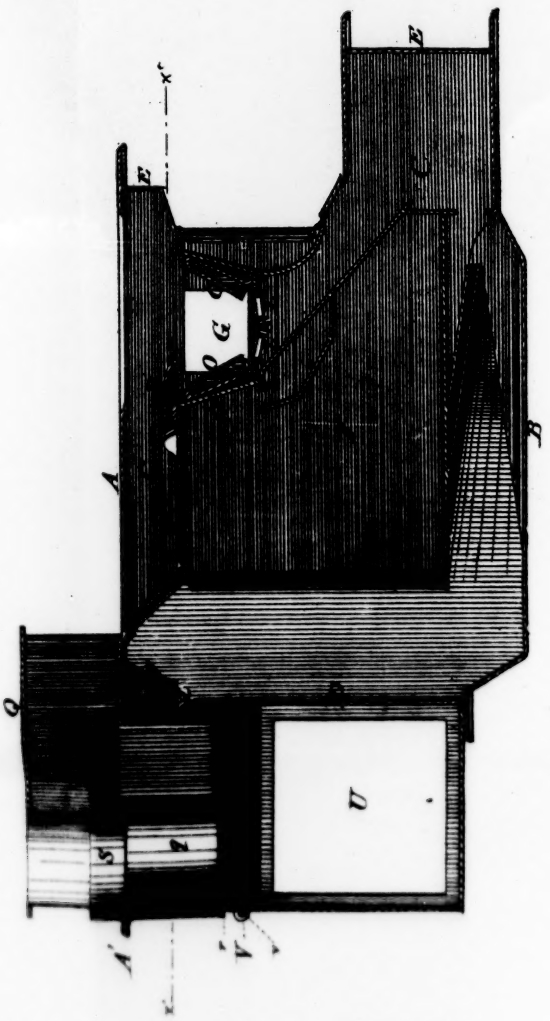

Fig. 2.

Witnesses.

A. H. Poole

Inventor.

Wm. J. Keep, by
Pritchett & Dyer, his
Attys.

Nos. 180+181
Bussey et al
v.
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5 Sheets
(154.)

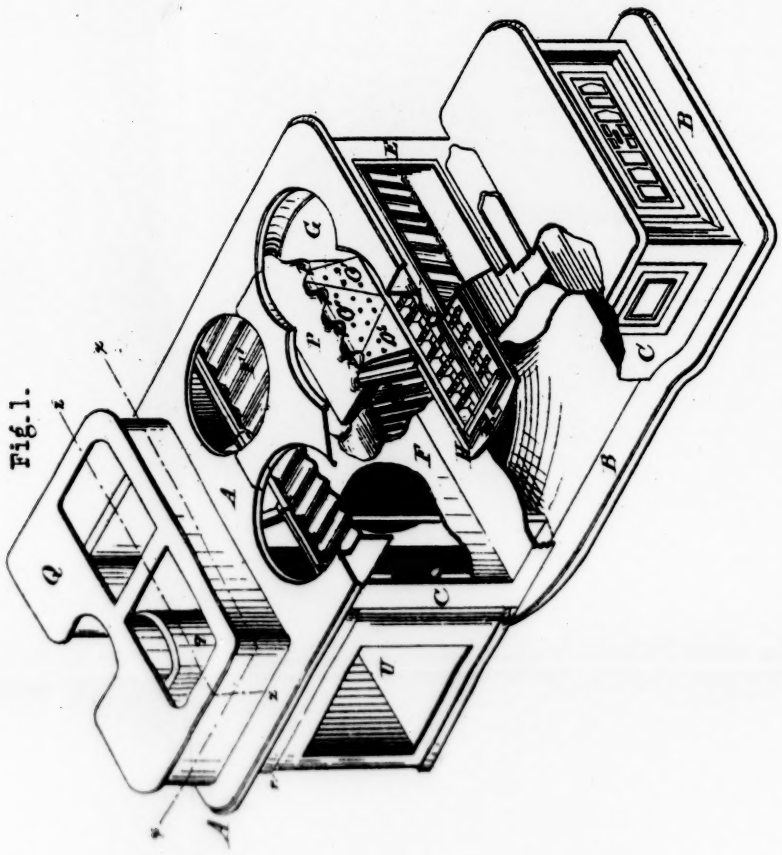
Sheet 1

Wm. J. Keep.

Improv't. in Cooking Stoves.

No. 121,876. Patented Dec. 12, 1871.

Fig. 1.



Witnesses.

Chas. L. Mudge
C. A. Poole

Inventor.

Wm. J. Keep, by
Riddle & Dyer, his
Attys.

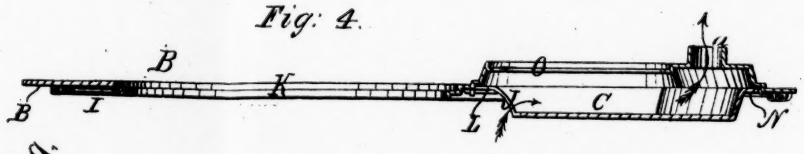
2. Sheets. Sheet. 2.

Crowley & Chamberlain,

Cook Stove.

No. 111,517. Patented Feb. 7. 1871.

Fig: 4.



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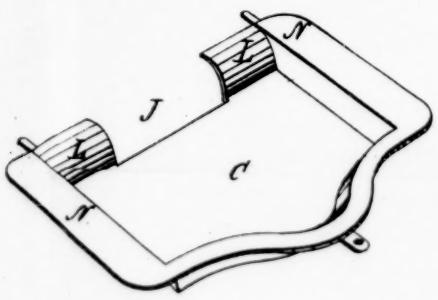
Excelsior Manuf'g Co.

Fig: 5.



Witnesses:
Harry King
Phil F. Dodge

Inventors:
L. B. Crowley &
A. E. Chamberlain.
by Dodge Munn
Attys.

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2 Sheets. Sheet 1.

Crowley & Chamberlain,

Cook Stove.

No. 111,517. Patented Feb. 7, 1871.

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Fig: 2.

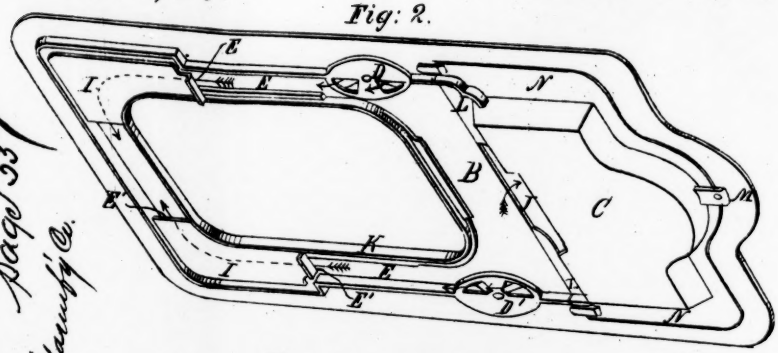
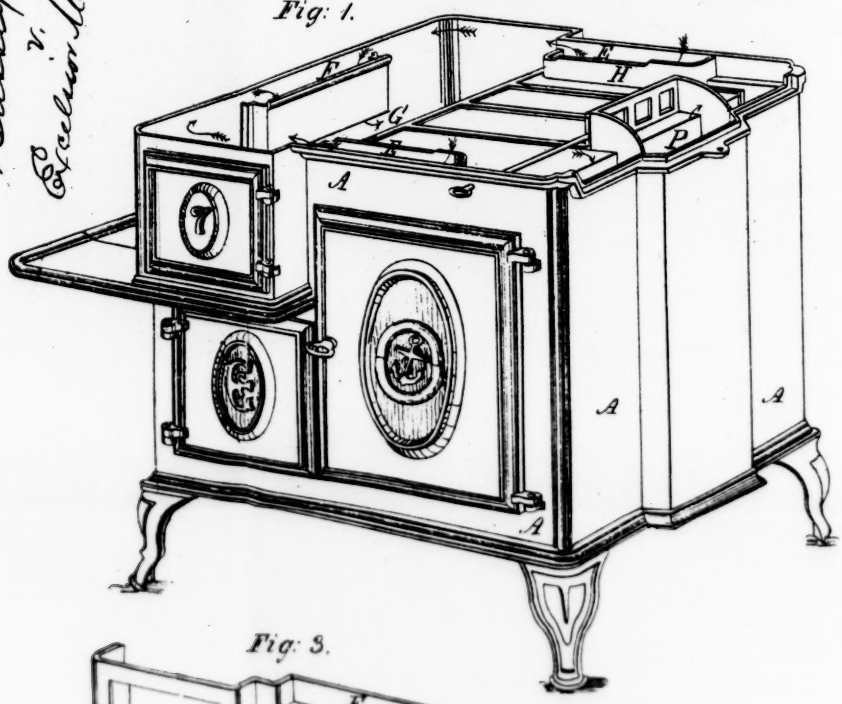


Fig: 1.



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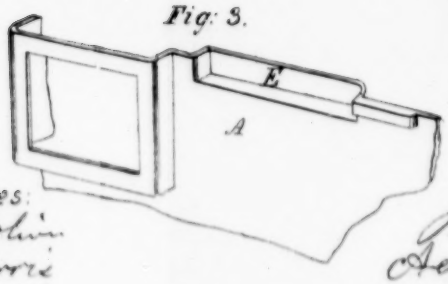

Witnesses:
H. W. Olin
D. L. Morris

Inventors:
John B. Crowley
Adelia E. Chamberlain

E. Bussey.

Reservoir Cooking Stove.

No. 2,319. Patented Jul. 24, 1866.

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Fig. 4.

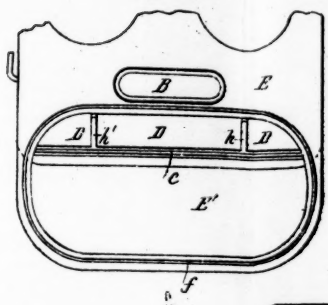
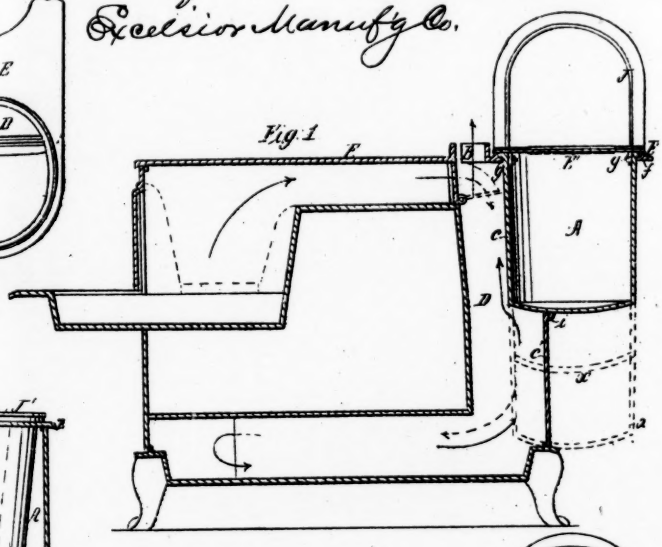


Fig. 1



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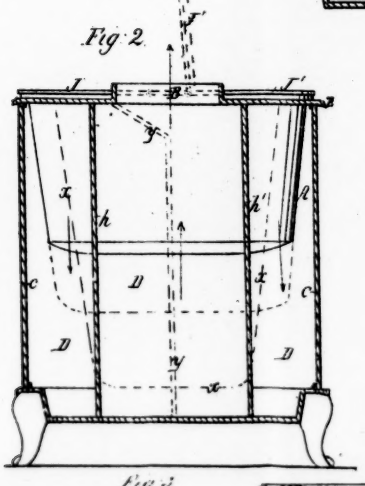


Fig. 5.

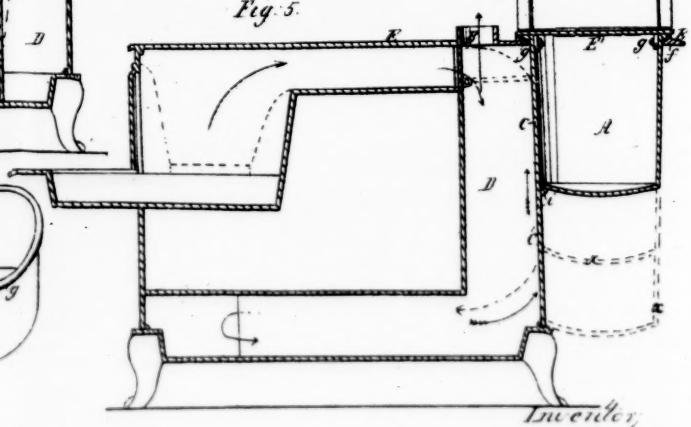
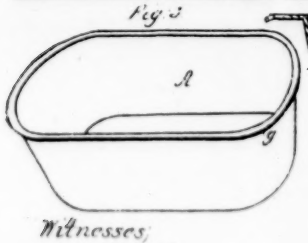


Fig. 3



Witnesses,
Marcus P. Norton
J. H. Phillips

Inventor,
Eck Bussey

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Bussey et al
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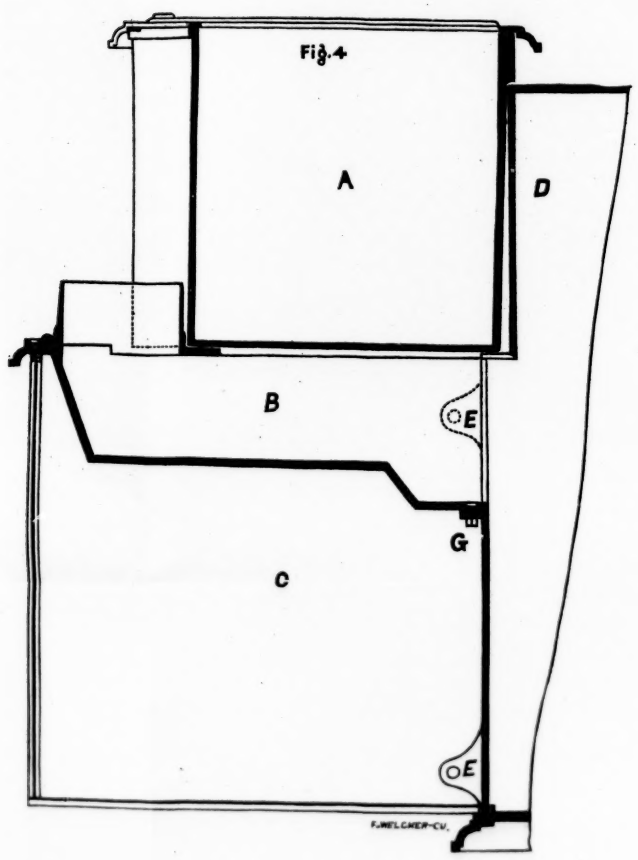
DEFENDANTS' EXHIBIT.

"BUCK DRAWING."



Nos. 180 & 181
Bussey et al
v.
Excelsior Manuf'g Co.
Page 552

DEFENDANTS' EXHIBIT.

"FILLEY'S SKETCH."

Fig 1.

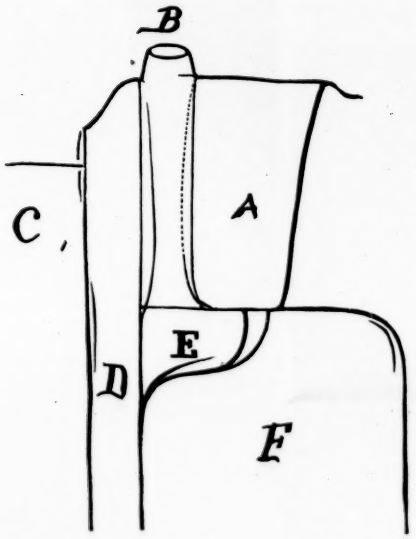


Fig 2.

1804.161 110-131

UNITED STATES PATENT OFFICE.

ESEK BUSSEY AND CHARLES A. McLEOD, OF TROY, NEW YORK, ASSIGNEES OF ESEK BUSSEY.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 56,686, dated July 24, 1866; reissue No. 3,649, dated September 28, 1869; reissue No. **3,815**, dated February 1, 1870.

To all whom it may concern:

Be it known that I, ESEK BUSSEY, of the city of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Cooking-Stoves, of which the following is a full and exact description, reference being had to the drawings, in which—

Figure 1 is a side elevation; Fig. 2, a rear elevation; Fig. 3, a plan; Fig. 4, a vertical section at the line *z z;* Fig. 5, a front view of a section at the line *y y;* and Fig. 6 a top view of a partial section at the line *x x*, all of a cooking-stove embodying my said invention, like parts being marked by the same letters in all the figures, and the arrows therein being indicative of the courses in which the gases of combustion pass through the stove.

One part of my invention consists in arranging a culinary boiler or hot-water reservoir in the rear of the oven of a diving-flue cooking-stove, with an exit-flue extending down the front under the bottom and up the rear of the said reservoir, substantially as hereinafter described and specified.

It also consists in arranging a culinary boiler or hot-water reservoir in the rear of the oven of a diving-flue cooking-stove, with an exit-flue leading from some point in the rear of the vertical flue or flues below the top of the said oven, and continuing under the bottom and up the rear side of said reservoir, substantially as hereinafter described and specified.

It also consists in the arrangement of a diving-flue cooking-stove, with an exit-passage constructed in the vertical rear flue or flues thereof, and below the top of the oven, in such a manner that the gases of combustion, after passing through such exit-passage, will impinge upon or come in contact with the bottom or sides of a reservoir placed in the rear of the stove, and just above said exit-passage, substantially as hereinafter described and specified.

It also consists in the employment of a thin plate or sheet of metal between the front plate of the reservoir and the rear end vertical flues of the said stove, substantially as shown and specified.

In illustration of my invention, the aforesaid drawings represent a cooking-stove having an oven, A, a culinary boiler or hot-water reservoir, B, arranged opposite to the rear upright side or end *d* of the oven, and an exit-flue, E E′, extended from the central vertical flue K of said stove at a point below the top of the oven, under or across the bottom *g* of the reservoir, and from thence up along the rear upright side of said boiler or reservoir to the draft-pipe I.

For the purpose of allowing the boiler to heat more readily, a portion of the rear end vertical plate of said stove is removed, so as to uncover the upper portion of the rear end vertical flues, and the front of the boiler is attached to the rear of said flues, in the manner shown and described in my reissued Patent of July 24, 1866. Between the inner side of the boiler B and the rear end vertical flues K and L L′, a plate may be employed, indicated by dotted line *v v*. The object of this plate is as follows: It has been ascertained by experience that when, during the use of the oven for baking purposes, a large quantity of cold water is suddenly poured into the reservoir, and there is nothing between the front of the boiler and gases of combustion passing through the rear end vertical flues, the heat of the said gases will be so much absorbed by the reservoir as to sensibly cool the oven and interfere with the process of baking. To obviate this I employ the thin plate *w w*, placed between the front of the reservoir and the said rear end vertical flues, and which, while it allows sufficient heat to pass through it to aid in heating the boiler, protects the front thereof from the direct impact of the gases of combustion, and preserves an equable heat in the oven. In case the said plate is dispensed with the inner side J of the said boiler will form a part of the lateral rear casing of the said rear end vertical flues, and will be heated by direct contact with the gases of combustion as they pass down and up the same.

M is the fire-box, and N and R the top and bottom flues of said stove.

The operation of my said invention is as follows: A fire being kindled in the fire-box M, and the damper Q at the top of the oven being open, so as to allow of a direct draft, the

Bussey & McLean
vs
Excelsior Manf Co
Complainants Exhibit
A.

E. BUSSEY.

Cook Stove.

No. 3,815. Reissued Feb. 1. 1870.

Fig: 3.

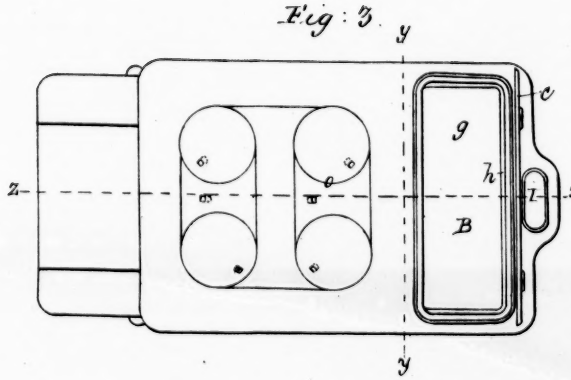


Fig: 6.

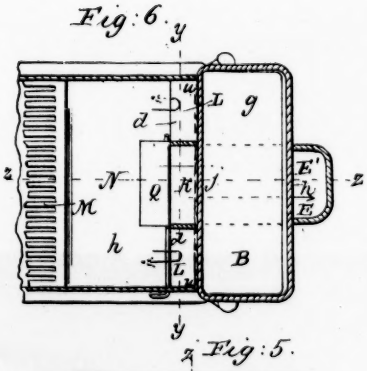


Fig: 4.

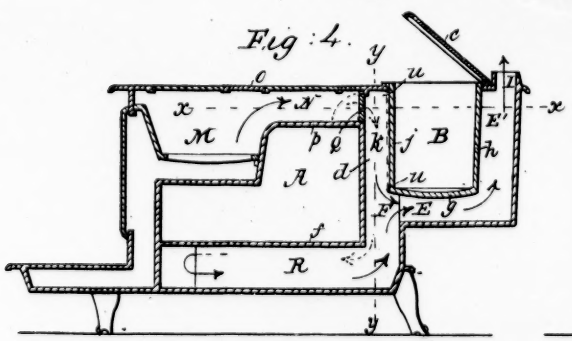


Fig: 5.

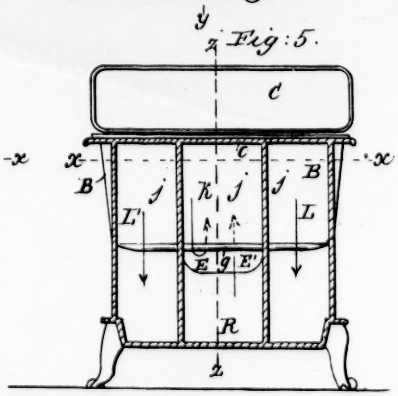


Fig: 1.

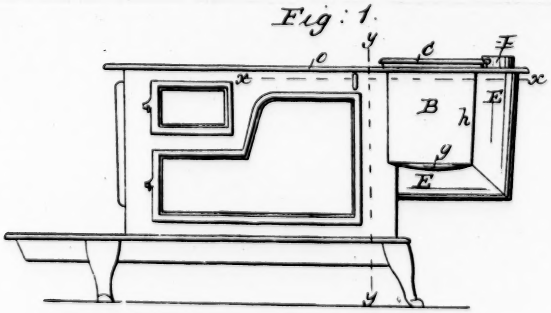
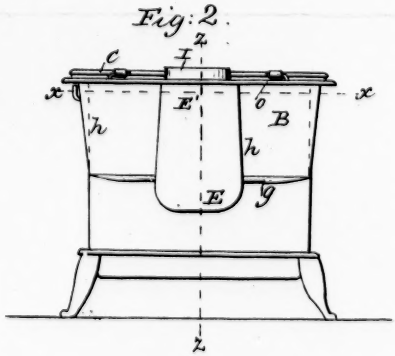


Fig: 2.



Witnesses.
Chas Hill Lee
Austin F. Park

Inventor.
Esek Bussey

N. PETERS. Photo-Lithographer. Washington. D. C.

4

Bussey & McLeod
vs.
Excelsior Manufg Co.
Complainant's Exhibit
5.

D. H. NATION & E. C. LITTLE.

Reservoir Cooking-Stoves.

No. 142,933. Patented September 16, 1873.

Fig 1

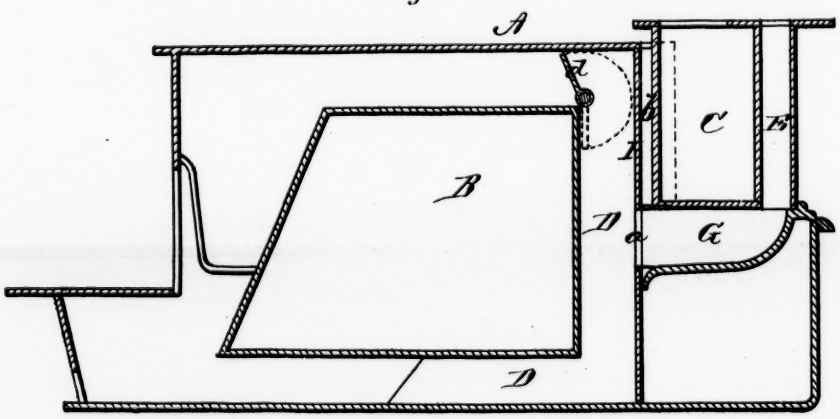


Fig 3

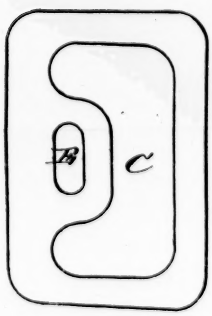
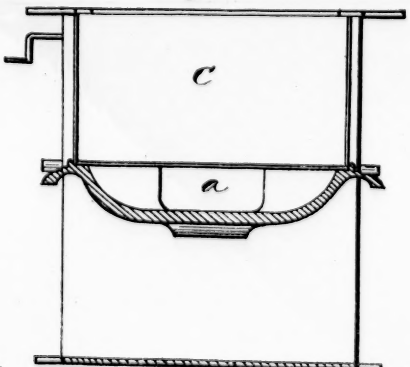


Fig 4

Fig 2



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C. L. Ernest.

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By Brandon Thurston
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W
4

A.M. PHOTO-LITHOGRAPH'G. CO. N.Y. (SEVERNE'S PROCESS)

UNITED STATES PATENT OFFICE.

DAVID H. NATION AND EZEKIEL C. LITTLE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **142,933**, dated September 16, 1873; application filed August 1, 1873.

To all whom it may concern:

Be it known that we, DAVID H. NATION and EZEKIEL C. LITTLE, of St. Louis, in the county of St. Louis and in the State of Missouri, have invented certain new and useful Improvements in Cooking-Stoves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

Our invention relates to that class of cooking-stoves in which a water-reservoir is situated at the rear end of the stove; and it consists in the arrangement of the reservoir upon an extended support at the rear of the stove, so that an air-chamber, opening at its top into the air of the room, is left between the back-plate of the stove and the front of the reservoir, thereby protecting the front of the same from becoming burned out by being in direct contact with the heat from the fire. It also consists in a broad sheet-flue arranged under the reservoir, the heated air for which enters through a small passage in the back-plate of the stove, and, after circulating in said flue, passes out through a small opening in the rear thereof, all as more fully hereinafter set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of our stove; Fig. 2 is a transverse vertical section of the same through the water-reservoir. Fig. 3 is a plan view of the reservoir; and Fig. 4 is a front view of the sheet-flue under the bottom of the reservoir.

A represents the top plate of the stove. B is the oven; C, the water-reservoir; D, the center one of the three flues of the stove; and E, the exit-flue, located in the rear of the reservoir C. This reservoir is located upon a support therefor, which extends rearward from a point about half-way between the top and bottom plates of the stove, and which may either be attached to or forming part of the stove, and a sheet-flue, G, is provided in the same under the bottom of the reservoir C. The heat, entering this flue, passes through the small central passage *a* in the stove-back I. It is there spread and retained under the reservoir until it gradually ascends through the small passage or exit-flue E. By this construction the rapid exit of the heated air from under the reservoir is prevented, and the heat, being retained under the bottom of the reservoir, causes the water in the same to become hot in a short time. The reservoir C is so arranged with respect to the back-plate I of the stove that an air-space, *b*, communicating with the air of the room at the top, is left between the front of the reservoir and the back-plate. By this means the outside air will pass down between the back-plate and front of the reservoir and prevent the front of the reservoir from burning out, which would be the case if the parts were in direct contact, especially when the water in the reservoir becomes low.

In the ordinary method the flame is made to strike directly upon the front surface of the reservoir, thereby rendering it liable to crack while replenishing with cold water upon the heated plates.

The opening *a* in the back-plate I of the stove is of the same width as the center-flue D, and the products of combustion pass through said opening into the sheet-flue G, which thus has a contracted entrance and a contracted exit.

When using the direct draft the damper *d* of the center flue D is turned downward and rests against the back-oven plate, as shown by the dotted lines in Fig. 1. At such times the heat passes down the center-flue D of the back through the opening *a* in the back-plate I into the sheet-flue G under the bottom of the reservoir, and out of the exit-flue E. When the indirect draft is used, the damper *d* occupies the position shown in Fig. 1, and at such times the heat passes down the usual side flues and under the bottom of the oven to the front of the stove, where it turns into the center flue D and passes back through the opening *a* to the sheet-flue G under the bottom of the reservoir and out of the exit-flue.

With a stove thus constructed, the reservoir is heated almost entirely from the bottom, and the heat acts upon the entire surface of the bottom of the reservoir, and when the

Bussey & McLeod
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Complainant's Exhibit
E.

D. H. NATION & E. C. LITTLE.

Reservoir Cooking-Stoves.

No. 142,934. Patented September 16, 1873.

Fig 1

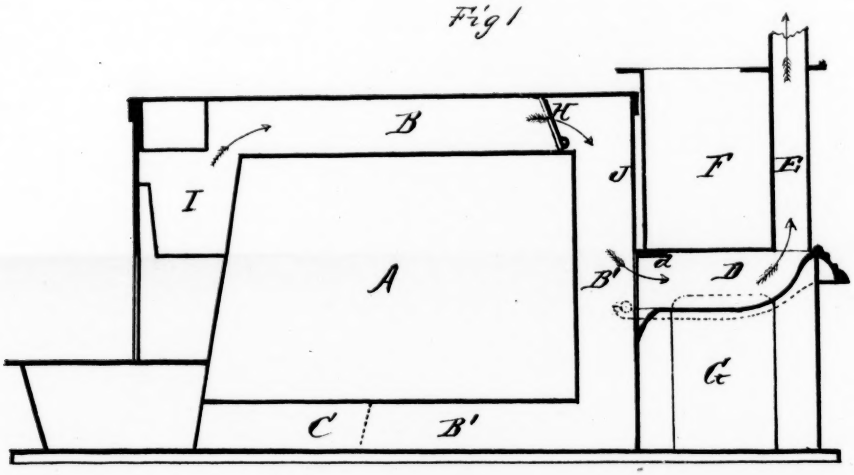


Fig 3

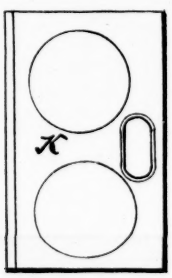


Fig 4

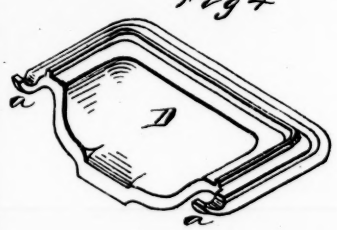
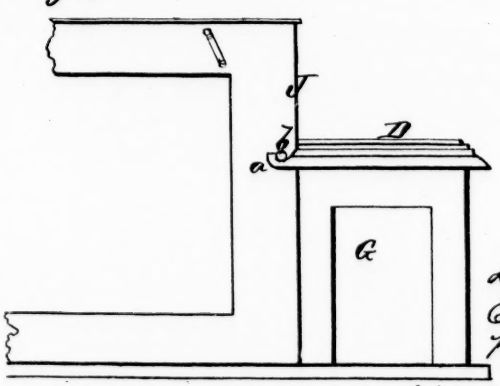


Fig 2



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Harry C. Scott

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per
Alexander Duncan
Attorneys.

A.M. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

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UNITED STATES PATENT OFFICE.

DAVID H. NATION AND EZEKIEL C. LITTLE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **142,934**, dated September 16, 1873; application filed July 2, 1873.

To all whom it may concern:

Be it known that we, DAVID H. NATION and EZEKIEL C. LITTLE, of St. Louis, in the county of St. Louis and in the State of Missouri, have invented certain new and useful Improvements in Reservoir Cooking-Stoves; and do hereby declare that the following is a full, clear and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a cooking-stove with a portable base-pan or flue-shell, and the means for attaching the same, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of our improved cooking-stove. Fig. 2 is a side view of the rear end of the same. Fig. 3 is a plan view of a loose cover or plate for the base-pan, and Fig. 4 is a perspective view of the portable base-pan or flue-shell.

A represents the main baking-oven of the stove. B is the top flue; B B′, the vertical and horizontal side flues. C is the center flue. D is the base-pan or flue-shell; E, the exit-flue passing up the rear side of the reservoir. F is the reservoir; G, the warming-closet; H, the damper; I, the fire-chamber; and J, the division-plate. When using the direct draft, the damper H occupies a line parallel with the back plate of the main oven, hanging down in the center flue of the back part of the stove. At such time the products of combustion pass from the fire-chamber I, along the top flue B, and down the center flue, between the back oven-plate and the division-plate J, into the base-pan D, and out of the exit-flue E. When using the indirect draft the damper H occupies the position shown in Fig. 1. At such time the products of combustion pass over the top oven-plate flue B, and down the vertical end flues B′ into the corresponding flues at the bottom, making the turn into the center flue of the bottom at C, through said bottom center flue, into and through the rear center flue, through the division-plate J, into the base-pan flue D, and out of exit-flue E, so that, whether using the direct or indirect draft, the reservoir is heated only on its bottom surface. The base-pan D is made separate from the stove, and provided on each side with a hook projection, *a*, to be fastened on a pin, *b*, projecting from the side of the stove. By this means the base-pan can readily be attached and detached, and when attached it fits in the upper end and forms the top of the warming-oven G. K represents a plate with two boiler-holes in it, which can be used when the reservoir is removed or should become broken in shipment, thus converting it into a six-hole stove.

It is our purpose to insert a loose center-piece between the boiler-holes in the plate K, so that an ordinary wash-boiler can be used on said plate, if desired.

The novelty of this invention consists in the portability of the reservoir base-pan D and in the warming-closet attachment, whereby we economize space in shipment, and whereby repairs can be made at a very small cost and by unskilled workmen, as all the attachments will be shipped separate from the body of the stove, and mounted after they reach their destination.

Should the reservoir become broken in shipment or otherwise, the plate K can be used, thus converting it into a six-hole stove, upon which an ordinary wash-boiler can be used in case of emergency.

The front bottom corner of the reservoir rests upon a strip, *d*, attached to the division-plate J, which thus entirely shuts off the air-space at the bottom.

By means of the base-pan flue D extending under the whole bottom of the reservoir F and the space between the reservoir and the division-plate J, the reservoir becomes heated only on its bottom surface, where there will always be water, if any in the reservoir at all. The exit-flue E passes up through and forms part of the reservoir F at the back or rear side, as shown.

We do not claim, under this specification, the combination of the reservoir with the back of the stove when an air-space open at the

top is left between the two, as seen in the drawings; nor do we claim the sheet-flue under the reservoir in the shell D, as both of these arrangements are the subject-matter of a separate application for a patent now pending.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The detachable base-pan or flue-shell D, attached to the body at a point near the center of the back plate of the stove by means of hooks *a a* cast on the base-pan, and pins *b b* on the stove-body, substantially for the purposes herein set forth.

2. The portable reservoir F, with flue E in the rear side, in combination with the portable base-pan or flue-shell D, substantially as and for the purposes herein set forth.

3. The combination, with a three-flue stove having damper H arranged as described, of the portable base-pan or flue-shell D and warming-closet G, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 9th day of June, 1873.

DAVID H. NATION.
EZEKIEL C. LITTLE.

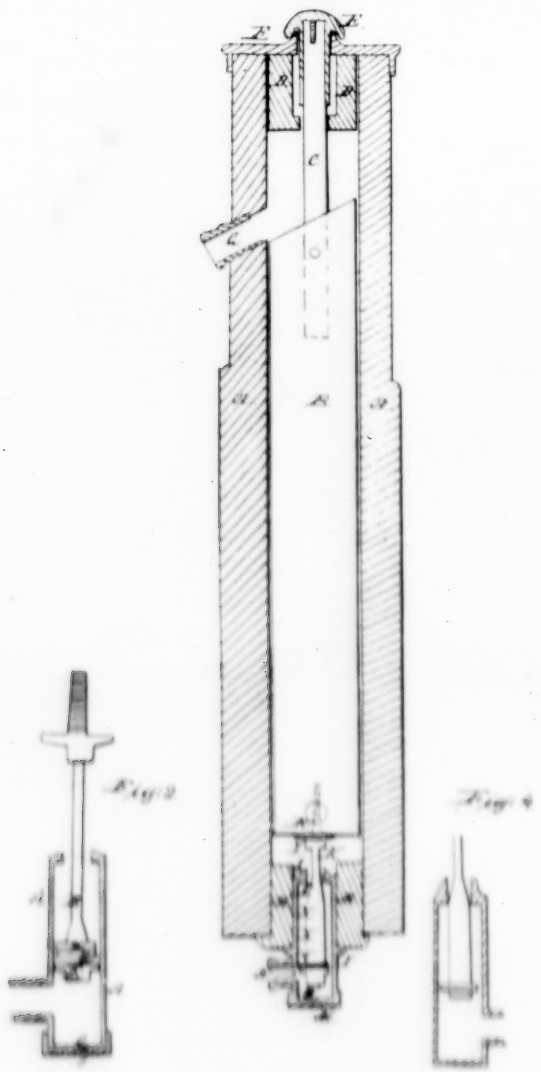
Witnesses:
BENJM. S. BUCK,
ARTHUR L. PIERCE.

No. 3370
Lane & Raach
v.
Saffe
Page 51

F. H. Bartholomew.

Pistons for Valves.

No 4,410. Patented Mar. 7, 1846.



No. ~~345~~ 70
Zane v Roach } page 23.
Soffe

N. Jenkins.

Self. Closing Cock.

№ 48,407. Patented June 27. 1865.

Fig. 1.

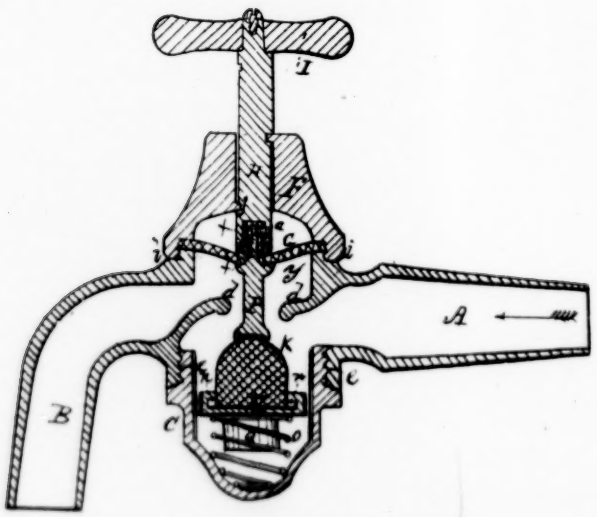


Fig. 2.

Witnesses
Amos N. Ames
Clarke Jos R Clarke

Inventor
Nath Jenkins

No. ~~215~~ 70
Zane & Roach
v.
Soffe

} page 58.

F. H Bartholomew

Hydrant.

Patented Aug. 12, 1846.

N° 4,692.

Fig. 1

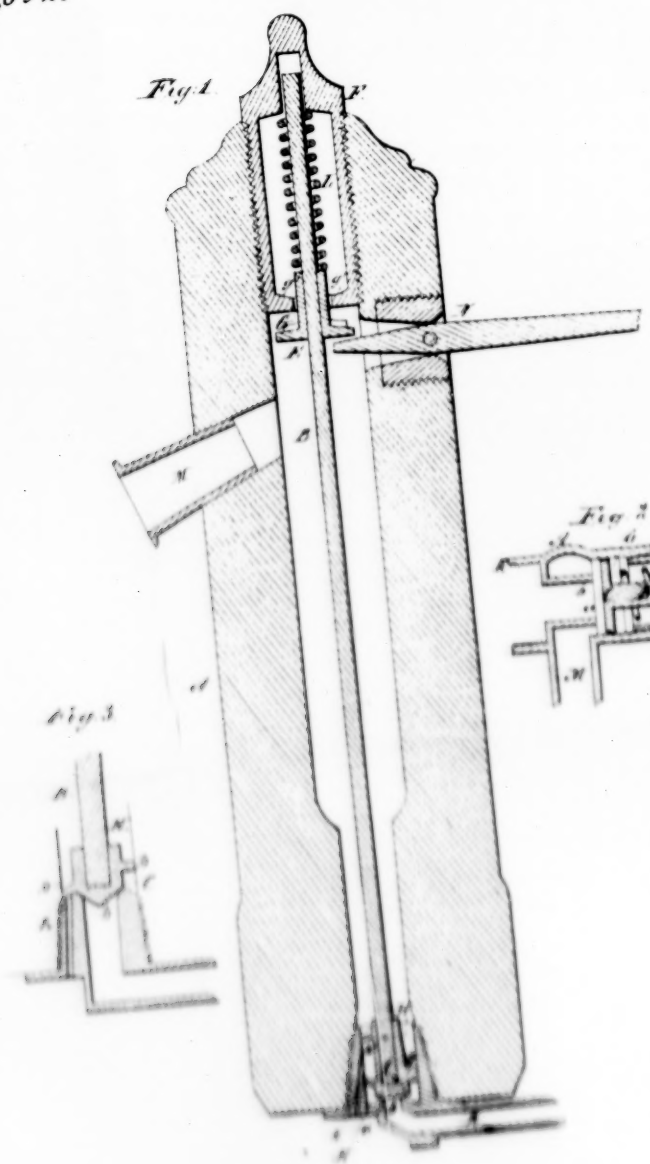


Fig. 2

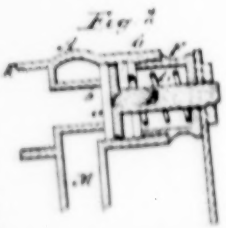


Fig. 3

No. 870
Lauer v Roach
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Soffe

Page 62

Lauer v. Soffe
Bartholomew
circuit
5 pl 54

U. S. Circuit Court.—Infringement of Patent—Damages—Motion for New Trial Denied.

FREDERICK H. BARTHOLOMEW and NATHANIEL SAWYER and WILLIAM S. CARR.—It will be remembered that this was an action which was tried at the April Term, 1850, before Judge Ingersoll—it being brought by the plaintiff to recover $3,000 damages for infringement of a Patent lasted to him June, 1834, for an improved method of governing the action of Valves for Water Closets, &c.

The defendants—who also had a patent (1856,) but not for the invention claimed by plaintiff—had been manufacturing and selling Valves, which they admitted embraced the improvement patented to plaintiff, but denied the validity of his Patent, admitting also that the Jury should assess the damages at the amount claimed, provided the verdict should be for the plaintiff. the defendants relying upon showing that the invention of the plaintiff had been before known and used in a foreign country and here. The case was closely contested, occupying the Court and Jury for two days, and, upon being submitted, the Jury in a few minutes returned a verdict for the plaintiff, with damages for three thousand dollars, sustaining his Patent. The defendants, taking exceptions to the ruling of the Judge, made a motion for a new trial and stay of proceedings, and the case came up for hearing September 16, before Judges Nelson and Ingersoll, upon which, the case having been argued, the Court decided that there was no ground for a new trial, denying the defendants' motion, thus concurring with the decision of the Court at trial, and confirming the validity of the plaintiff's Patent. Counsel for plaintiff, Mr. Keller; for the defendants, Mr. Tracy.

Subsequent to above decision, Judge Ingersoll has granted an injunction restraining Sawyer & Carr and J. & H. Jones & Co., from infringing on plaintiff's Patent, agreeably with the prayer of the patentee in suits in equity

[See Opinion of Court, in N. Y. Tribune, September 17, and N. Y. Times, September 17 and 21.]

BARTHOLOMEW'S

PATENT

HYDRANTS,

PAN AND HOPPER CLOSETS, VALVES, &C.,

No. 84 MARION STREET, NEW YORK.

BARTHOLOMEW'S

PATENT

Self-acting Safety-valve Hydrants

Are highly approved of and in extensive use for the Croton Water in this City, and by various Water Companies, by Plumbers, Real Estate Owners, House Agents, &c. They are substantial; durable; will not burst pipe; require no air vessel; not liable to get out of order; not left running carelessly, or by children, being self-stopping; not liable to freeze, if properly put in and kept in order; they are easily repaired without digging or stopping off the water, and may be easily taken up without cutting off the pipe; cannot be injured by frost; can be thawed out in a few minutes without digging at all. Always left shut.

DIRECTIONS.

Set up this Hydrant on a flat stone, and form a cesspool at the bottom with bricks, stones, gravel, &c., to admit of its wasting and prevent freezing.

REPAIRS.

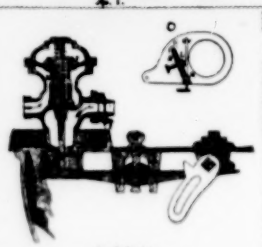
By removing the screw top, all the working parts and handle may be taken out in one minute for repair or renewal, and replaced without disturbing or taking out the Hydrant, or stopping the water. Also,

DOUBLE HYDRANTS FOR TWO YARDS,

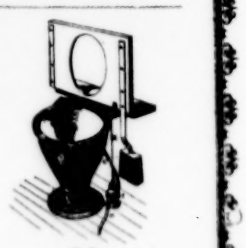
WARRANTED TO WORK WELL.

☞ No charge for Repairs within one year if well used.

No. 2 Portable.



No. 3 Section.



No. 7.

BARTHOLOMEW'S PAN CLOSET WITH PATENT SELF-REGULATING VALVE.

Arranged upon the top of the Closet, within a rail "E," cast upon the top plate or cover of the Closet, so that all waste and any leakage shall always fall directly into the Closet, and never on the floor—keeping the floor always dry. This Valve Communicates with the Cistern, Service Box, Ball Cock, Cranks and Pipes, extending between Cistern and Closet. No Cistern, Air Vessel or Receiver is required—the waste being conducted directly from the main pipe through the Valve to the basin. The whole apparatus being arranged beneath the seat is out of sight. Upon lifting the handle to flush the Closet, the Valve is raised by lever "H," and gives a momentary supply of water; as long as the handle is held up and upon dropping the handle, the Valve closes quickly, the same is shut or stopped, the basin will be left well supplied with water, and found properly and cleansed. The Handle Cap, is readily adjusted either in a lateral or vertical direction to suit the carpenter. A Brass Flange Strainer gives the whole finish a fine appearance upon the floor. All the working parts of the Valve are readily removed for repair, and replaced by unscrewing the Valve Cap without removing the seat, closet, floor, coupling or pipe. Also, Valves adapted to Hoppers constructed on the same principle, either with or without Hoppers.

The Fifth Avenue Hotel; the New Philadelphia Hotel, and various other Public Buildings, Hospitals, Prisons, Banks, Schools, &c., are fitted up with these Valves.

BARTHOLOMEW'S

IMPROVED HOPPER & URINAL COMBINED

With No. 4 Patent Double Valve attached.

Having Self Lifting Seat Board. Cast Iron Enameled Hopper, with projections on top to which seat is hinged, and bound flange by which the whole is supported upon the floor, without any woodwork about it; the seat board being always kept clean and dry. Self Suspending Valve No. 4 may be used instead of No. 3.

Adapted to Hotels, Stores, Schools, Hospitals, &c., &c.

No. 4

BARTHOLOMEW'S

PATENT SELF-SUSPENDING VALVE.

FOR HOPPERS, &c.

No. 5

BARTHOLOMEW'S

PATENT SELF-ACTING DOUBLE VALVE,

FOR HOPPERS AND URINALS.

No. 6

BARTHOLOMEW'S

THREE WAY HOPPER VALVE,

No. 8

PATENT SELF-ACTING

NON-FREEZING BIRD COCK.

MANUFACTORY ONLY

NO. 84 MARION STREET,

NEW YORK.

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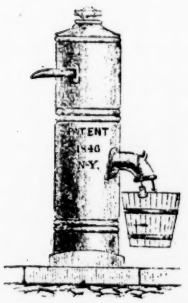
Zane v Soffe
Bartholomew Circular
5.5.R

BARTHOLOMEW'S

PATENT

HYDRANTS, PAN AND HOPPER CLOSETS, VALVES, &C., &C.,

NO. 84 MARION STREET, NEW YORK.



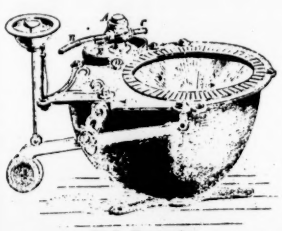
No. 1.

Bartholomew's Patent Self-Acting Safety-Valve Hydrants, are highly approved of and in extensive use for the Croton Water in this city, and by various Water Companies, by Plumbers, Real Estate Owners, House Agents, &c. Are substantial; durable; will not burst pipe; require no air vessel; not liable to get out of order; not left running carelessly, or by children, being self-stopping; not liable to freeze, if properly put in and kept in order; they are easily repaired without digging or stopping off the water, and may be taken up without cutting the pipe; cannot be injured by Frost; can be thawed out in a few minutes without digging at all. Always left shut.

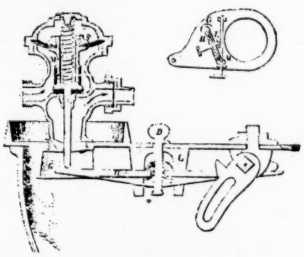
Directions.—Set up this Hydrant upon a flat stone, and form a reservoir at the bottom with bricks, stones, gravel, &c., to admit of its wasting and prevent freezing.

Repair.—By removing the screw top, all the working parts and handle may be taken out in one minute for repair or renewal, and replaced without disturbing or taking up the Hydrant, or stopping the water.

Also, Double Hydrants for Two Yards. Warranted to work well. ☞ No charge for Repairs within one year if well used.



No. 6. Perspective.



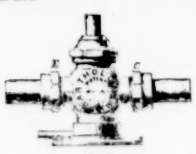
No. 6. Section.

Bartholomew's Patent Pan Closet Self-Suspending Valve, arranged upon the top of the closet, within a safe "E," cast upon the top plate or cover of the closet, so that all waste and any leakage shall always fall directly into the closet, and never on the floor—keeping the floor always dry. This Valve dispenses with the Cistern, Service Box, Ball Cock, Cranks and Pipes, extending between cistern and closet. *No Cistern, Air Vessel or Receiver is required*—the water being conducted directly from the main pipe through the Valve to the basin. The whole structure being arranged beneath the seat is out of sight. Upon lifting the handle to discharge the Pan, the Valve is lifted by lever "H," and gives a continuous supply of water as long as the handle is held up, and upon dropping the handle, however quickly, the same is lifted and dropped, the basin will be left well supplied with water, and filled properly and cleansed.

To regulate the quantity of water, turn screw "D," towards the left to decrease, and towards the right to increase it.

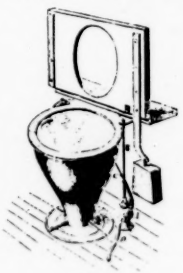
Cost about one half as much as the old style with Cistern, Ball Cock, &c., &c. The practical utility of this Valve has been tested by several years use.

Patented June, 1851. *Beware of infringements.*



No. 2.

Bartholomew's Patent Self-Acting Single Valve for Hoppers and Urinals will not burst pipe; always left shut, give a continuous supply of water into the Hopper while the seat or stop is occupied; (See No. 7 plate.) not injured by freezing; not liable to get out of order and easily repaired. Have been in extensive use several years. *None genuine unless having "Patent" cast upon them. All infringements prohibited.*



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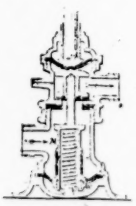
Bartholomew's Improved Hopper and Urinal Consumer, with No. 2 Patent Single Valve attached; having self-lifting seat board; Cast Iron Enamelled Hopper, with projections on top to which seat is hinged, and broad flange by which the whole is supported upon the floor, without any woodwork about it; the seat board being always kept clean and dry. Self-Suspending Valve No. 4 may be used instead of No 2. Adapted to Hotels, Stores, Schools, Hospitals, &c., &c.



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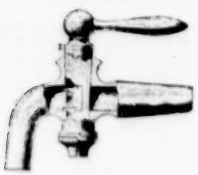
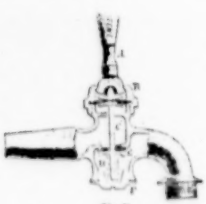
This Valve does not discharge while the seat is set upon.



No. 9.

Patent Frost Proof or Non-Freezing Hose Cocks—Patented Nov. 1850. It is well known that very many cocks are injured and rendered useless by freezing of the water contained in the water way of the plug of cock, which being entirely confined when the cock is shut—upon being frozen—expands the barrel and causes it to leak. This Cock is so constructed as that the water contained in the plug when shut, will waste out through the hole, whichever way the lever is turned, thus avoiding the danger from freezing. The cost is but little more than the ordinary cocks. The utility of this improvement is readily perceived upon examination.



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Patent Three Way Hopper Valve, to be used with an Air Receiver, giving discharge of water into the Hopper after it has been used; avoiding waste of water; gives same amount of water into Hopper whether held open one minute or ten. "H" Induction; "C" Air vessel; "F" Discharge to Hopper. Have been in extensive use for several years.

No. 1, $6; Double $9 ... No. 2, $7 to $8 ... No. 4, $7 and $8 50 ... No. 6, $ ... No. 9, $ ... No. 3, $3

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BARTHOLOMEW'S

PATENT

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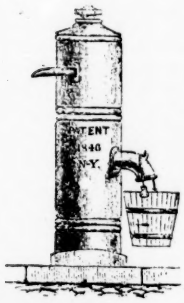

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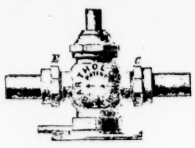

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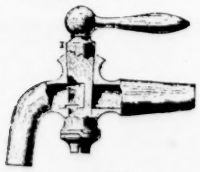

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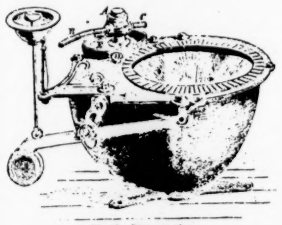

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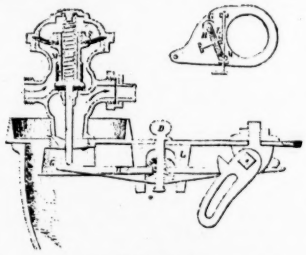

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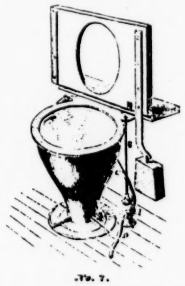

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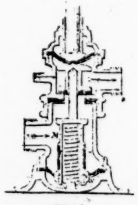

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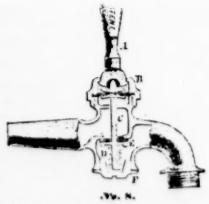

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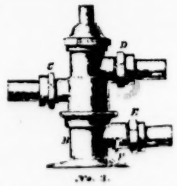

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Soffe

H. SOFFE.

Faucets.

No. 148,520. Patented March 10, 1874.

Fig. 1

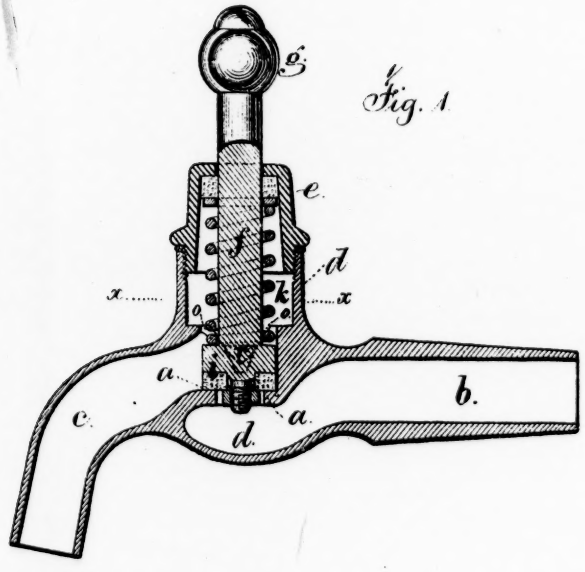
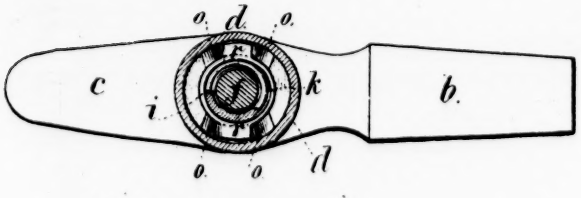


Fig. 2



Witnesses
Chas. H. Smith
Harold Sewell

Inventor
Henry Soffe.
per Lemuel W. Serrell
Atty